FIRE ENGINEERING

OHIO STATE UNIVERSITY
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The Journal of the Fire Protection Profession Since 1877

MAY, 1953

Fire of suspicious origin wrecks Paterson, N. J., plant and involves neighboring structures (Story on page 420)

A CASE - SHEPPERD - MANN PUBLICATION

is Your Community protected

by the MOST EFFECTIVE resuscitating apparatus known to Science?

EMERSON Resuscitators

SIMPLE to operate, with no complicated adjustments.

SAFE for adults, children, or infants. There is no record of lung injury from the pressures used in thousands of cases in more than ten years.

EFFECTIVE The suction phase, alternating with the positive phase, helps circulation and can be of life-and-death importance, especially to victims in shock.

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WRITE for our free

Medical Reference on Resuscitation

Information and Demonstration

Bulletin on a New Manual Method of Artificial Respiration

"Simplest and Safest"

J. H. EMERSON COMPANY

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FEDERAL WARNING SIGNALS

TOMORROW'S APPARATUS TODAY

American LaFrance open cab Aerial protected with Federal model 78 siren and post mounted Beacon Ray Light.

ARE *FIRST CHOICE* FOR *ULTRA MODERN* APPARATUS

This nimble-footed fighter announces its mission with a road-clearing Federal Coaster Siren that can't be ignored; a Federal Beacon-Ray flashing-light that commands instant alertness against possible collision even when the unit is standing still.

You want the finest fire-fighting equipment your money will buy . . . isn't it just good common sense to insist that this precious apparatus be protected with the finest warning signals you can buy for any amount of money anywhere? Be sure . . . specify a Federal Coaster Siren and a Federal 360-degree Beacon-Ray light for your new apparatus now.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

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MEMBER
Audit Bureau of Circulations
Associated Business Publications

News—and Lessons

A BLAZE in a Florida sanitarium claimed the lives of 33 persons. A smoky fire in a newly erected brewery brought death to 8 others. A Chicago industrial plant burned, and 34 more people died. All this within a few weeks!

● In each of these fires the cause is undetermined. In each the tragic incident posed a different problem for the respective fire forces involved. Each received nationwide publicity with emphasis on radio and television. And each resulted in the usual "probe" and "investigation."

● Behind each of these tragedies is a story and a lesson for the nation's fire forces—not the news and radio stories the public hears and sees—but the technical and engineering stories of cause and effect. Not the sickening tales about the dead and injured, but the "reasons-why" for these casualties.

● Each of these—and thousands of episodes like them, are a lesson to the fire service, if the facts can be made known. Where are firemen to get these facts—the stories behind the stories?

● Well, look further into this issue of FIRE ENGINEERING. At least one of the above holocausts is dissected, and discussed in the detail fire fighters want.

● This, we believe, is the kind of reporting our readers—and advertisers *expect* in this Journal!

The Publishers

FIRE ENGINEERING

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One, inch and three quarter and three, inch and one eighth tips. One hundred twenty five pounds nozzle pressure. 2300 Gal. Per Min.
PERFECT BALANCE PERFECT CONTROL

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FABRIC FIRE HOSE COMPANY

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STOP FIRES FASTER
STOP EXCESSIVE WATER DAMAGE
with JOHN BEAN HIGH-PRESSURE FOG

John Bean High-Pressure Fog has triple fire-fighting action. It cools, it isolates, it smothers. One gallon of water converted into high-pressure fog has the fire quenching capacity of ten gallons discharged as a conventional stream. With John Bean High-Pressure Fog you can extinguish 90% of your fires faster with 90% less water. When the fog goes in, the fire goes out.

The Original John BEAN High-Pressure Fog Firefighter

Develops 850 pounds pump pressure and delivers 650 p.s.i. at the nozzle.

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Gives you famous Bean High-Pressure Fog plus a volume pump that delivers approved Underwriter's streams . . . 500, 600 or 750 gallons per minute.

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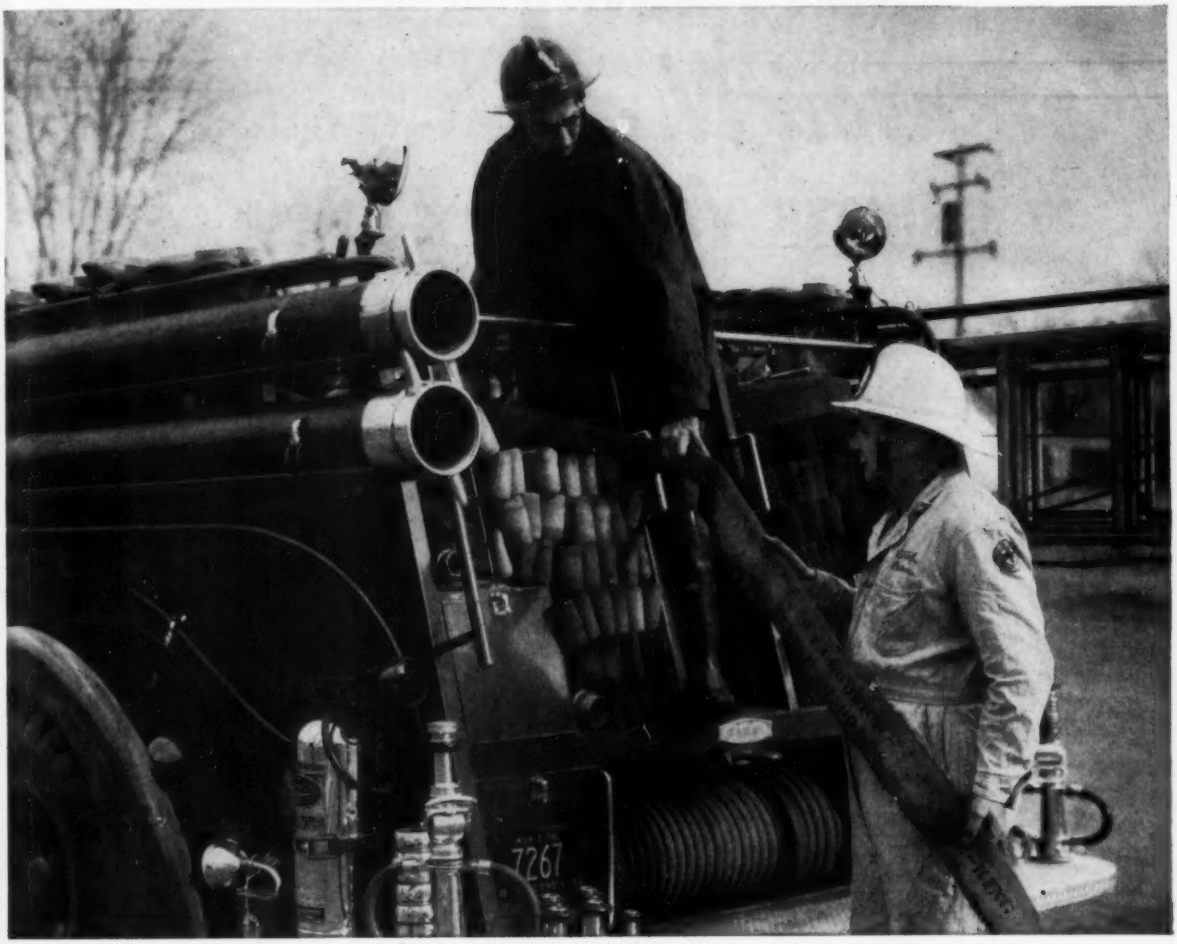
ORIGINAL HIGH-PRESSURE FOG FIRE-FIGHTER — *Can be mounted on most standard truck chassis*

A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER



This hose fights fires— not firemen

HEAVY, hard-to-handle hose lines actually hinder a fire company, slow it down. Firemen waste vital minutes and strength fighting stubborn hose before they can fight the fire.

Weight used to mean strength. But since B. F. Goodrich developed Fire King, there's just no advantage in using stiff, bulky hose. Fire King is 15% lighter, much more flexible than other hose. As a result, it gets into action faster, handles easier during the fire, and saves loading time afterwards because it racks naturally on the truck bed.

It's a chemically-produced fiber that makes Fire King lighter, more flexible. This fiber, found only in B. F. Goodrich hose, is used as "filler" cords—the cords that go *around* the hose and carry the load under pressure. It stands higher pressures, too. Actual service tests prove that Fire King, tested to 600 pound pressure, is *50% stronger* than standard fire hose which is tested to only 400 pounds.

Ease of handling is what sold Chief Wm. Palm (at right above) of the Rothschild, Wisconsin Volunteer Fire Department. He says Fire King is the most flexible hose his department ever used. But see for yourself. Let your BFG Fire Hose Distributor show you a sample of Fire King, compare it with the hose you're now using. Then you'll be convinced it's your best hose buy.

The B. F. Goodrich Company
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Without cost or obligation, please
- ☐ send me more information on B. F. Goodrich fire hose.
- ☐ have BFG Fire Hose Distributor see me

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Department_____
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Fire Hose BY **B.F.Goodrich**

HERE'S HOW

Paterson N.J.

GOT GREATER VALUE

. . . with "Civil Defense" participation

Mayor Titus and Chief Strathearn of Paterson were not content to have their city just match dollar for dollar with the Civil Defense appropriation they received from the Government. They realized that this was a wonderful opportunity to buy dependable, quality Fire Apparatus. It took a bit more money for the city's share but in return they received delivery of six Seagrave, 12 Cylinder, 750 gallon Pumping Engines with complete Civil Defense equipment. . . . When your city is buying Fire Apparatus for Civil Defense why not take heed of the wise decision of Paterson, N. J.? . . . It costs only a few dollars more to get Seagrave and then you have Fire Apparatus that is dependable, efficient and will give long years of service.

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Seagrave

THE GREATEST NAME IN FIRE APPARATUS

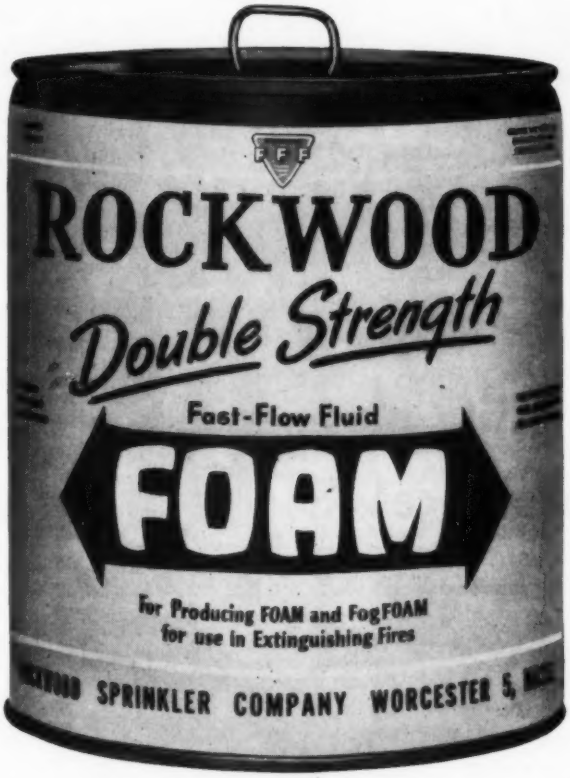
Quenches Quicker!

. . . with Less Water

that's the Short-Short Story of Rockwood Fire Fighting Aids

That's why fire-fighters like to work with Rockwood's equipment. Take for instance our new contribution to modern fire fighting, the Rockwood Double Strength FOAM Liquid which has many important advantages. Three of these are:

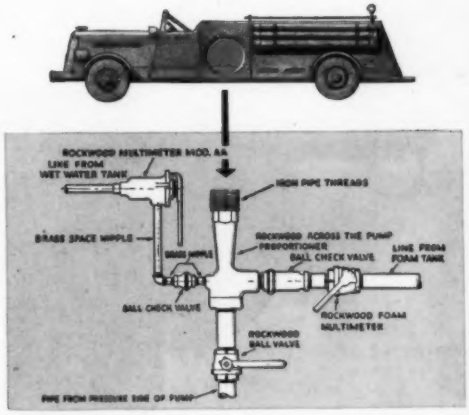
- 1. more fluid
- 2. faster spreading
- 3. flows freely at sub-zero temperatures



Rockwood's new Double Strength FOAM Liquid will put out fires in flammable liquids faster and at lower cost. Three parts of FOAM liquid mixed with 97 parts of water form an excellent foam blanket that will quickly re-seal if broken. Double Strength FOAM Liquid is more fluid, faster spreading and flows freely at sub-zero temperatures (—15° F.) It is quicker to put into action, covers burning surfaces faster, seals off combustible vapors completely and flows freely around obstructions. This foam blanket has proved its ability to extinguish large spill fires in gasoline with maximum speed and safety to firemen.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses



Accurate Mixing Assured: Automatically feeding Double Strength Foam or Wet Liquid into hose lines, Rockwood's Model Dual "B" Around-the-Pump Proportioner is designed for use where pressure is maintained by a pump from either draft supply or booster tank. Multimeter settings admit proper amounts of wetting agent for varying nozzle discharges and solution strengths.

Special Fire Truck Proportioning Systems for FOAM Liquid and Wetting Agents

Trucks for crash-rescue fire fighting, at airports or for handling spill fires in an oil refinery require special proportioning systems for large volume FOAM discharge through several FOAM turret and hand line nozzles.

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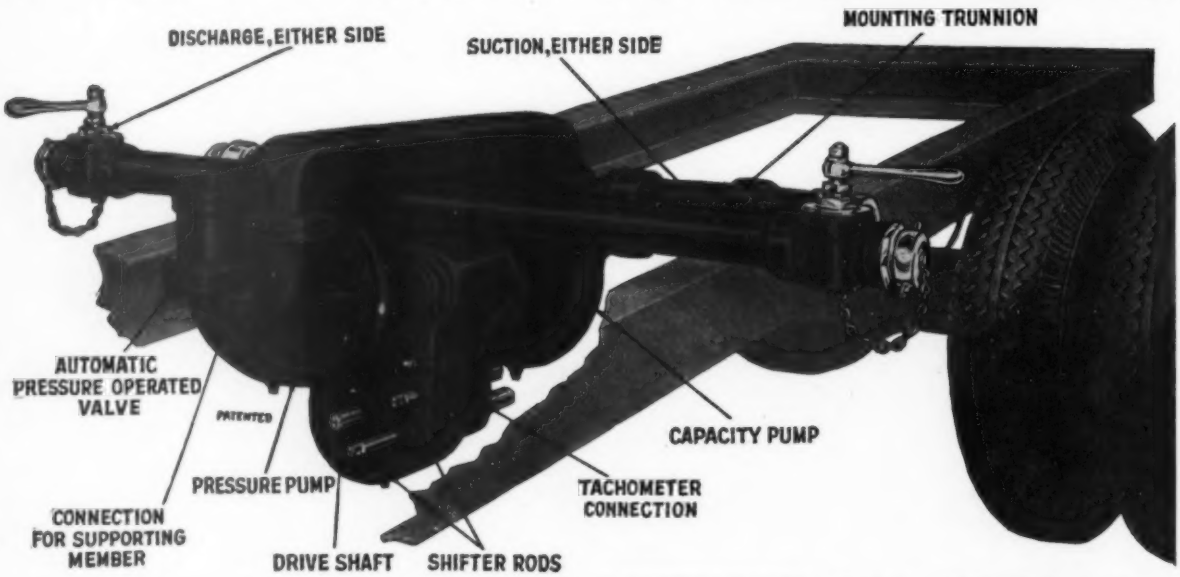

...that's why this BARTON-AMERICAN DMA can give you extra flexibility plus higher fire pump performance!

In *one unit,* you can get high volume at normal pressure . . . normal high pressures . . . and extremely high pressures for fog guns . . . all at very *moderate* engine speeds.

The two impellers are *independently* shafted and geared . . . to run alone if desired or together in series when needed. Low pressure pump handles dirty water without damage to the high pressure pump.

In addition, this Barton-American Duplex Multistage Centrifugal has *one point lubrication* . . . with all bearings running in oil inside *one* automotive-type transmission housing.

These *exclusive* design features give you *extra* fire-fighting flexibility and top performance with operating pressures to 400 pounds two stage or 850 pounds four stage. For full details, contact our Representative.

DMA PUMP
Cutaway shows independent impeller shafting and single gear box.

WRITE FOR BULLETINS:

Bulletin 8733 describes DMA Duplex Multistage Centrifugal Midship Pumps.

Bulletin 8734 describes DMB Duplex Four Stage Midship Pumps . . . pressures to 850 lbs.

AMERICAN-MARSH PUMPS
BATTLE CREEK MICHIGAN

In Canada:
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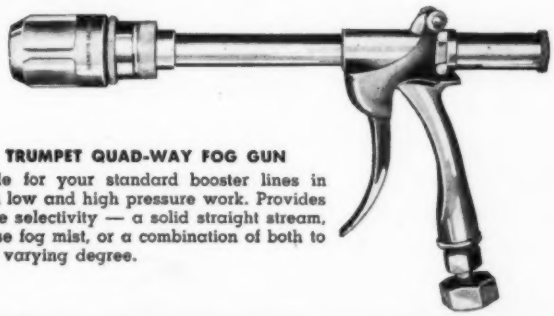
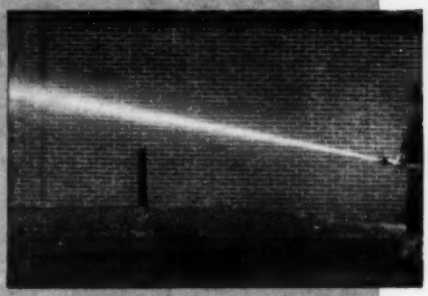
QUAD-WAY® FOG NOZZLES

FIRE FIGHTERS' CHOICE FROM COAST TO COAST

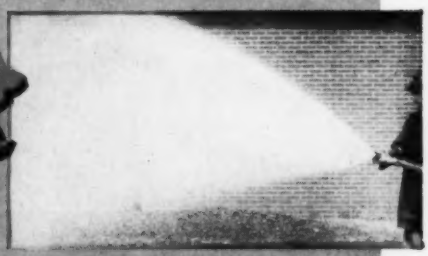
The speed with which the fireman can change his attachment to meet quickly changing conditions often makes the difference during a fire. Quad-Way's quick versatility, its ability to fight fire four ways, gives the fireman a choice of streams ranging from a dense vapor-fog to a solid straight stream and a combination of both. Built by America's outstanding producer of fire-fighting equipment, the QUAD-WAY gives the firefighter every stream needed — right at his fingertips.



TRUMPET QUAD-WAY FOG GUN
Made for your standard booster lines in both low and high pressure work. Provides same selectivity — a solid straight stream, dense fog mist, or a combination of both to any varying degree.

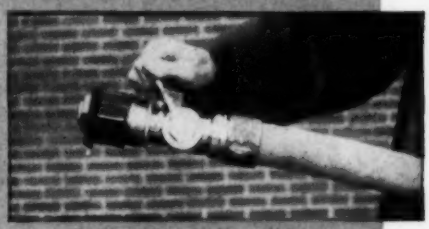


FULL SOLID STRAIGHT STREAM
The construction of the QUAD-WAY produces a more efficient stream because of the added length of the solid stream orifice and the scientifically broached interior.



VAPOR OR FOG-MIST ONLY
This nozzle has a range of 20 to 160 angle inclusive. The fog-mist pattern is dense, not hollow, throughout its entire range.

SOLID STRAIGHT STREAM AND WATER CURTAIN COMBINATION
This safety feature enables the man to protect himself from excessive heat, smoke and poisonous fumes, and continue to fight the fire.



COMPLETE SHUT-OFF
The solid stream and fog-mist operate by separate conventional shut-offs. The valves are so carefully engineered that they can work instantly yet provide a leak-proof seal.

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MIDWESTERN MFG. CO., Mackinaw, Illinois

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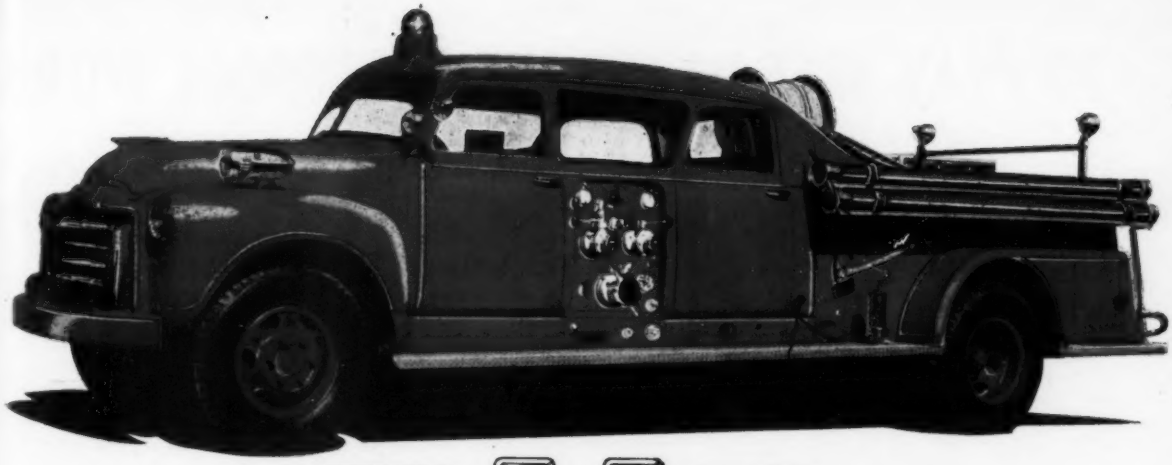

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Fire Equipment built to your order...

1. 9-man cab—protection and comfort in all-weather.
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3. Easy access to mid-ship pump by simply lifting center seat.
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7. Hardware throughout entire cab to be standard to chassis.

Compare the features of Bruco PUMPER
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You owe it to yourself, your men and your fellow-citizens to investigate the many merits and exclusive features of BRUCO Fire Equipment. Ride before you decide.

Check them all. Carefully consider what every piece of equipment has to offer. GET THE FACTS—GET A DEMONSTRATION—and we're confident you'll get BRUCO.

We spent years of painstaking research in testing, comparing, experimenting—and we sincerely believe we can build to your requirements the finest piece of fire equipment your money can buy—to meet any and every emergency.

FIRST at FIRES — BRUCO — FIRE EQUIPMENT

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Tell us what you have in mind, and we'll gladly give you our ideas and suggestions without cost or obligation.

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TO PLAY SAFE IN EMERGENCY RESCUE WORK

Insist on Resuscitation Equipment that . . .

1 **WILL LET YOU TREAT *ANY* PATIENT —ADULT, CHILD OR INFANT—WITH EQUAL EFFICIENCY AND SAFETY**

You never have to worry about proper pressure settings with the E & J. They are factory-set at both positive and negative limits that have been *confirmed as absolutely safe for any patient,* even premature infants, by extensive studies in great medical centers and by hundreds of thousands of actual applications during more than twenty-three years of use.

The E & J always operates at full efficiency; never at reduced pressures in which respiratory efficiency decreases rapidly.

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AUTOMATIC RESUSCITATOR-ASPIRATOR-INHALATOR

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Burbank, Calif.

2 Illinois cities choose WARD LaFRANCE

These new Ward LaFrance Pumpers will shortly see service in Libertyville and Steger, Ill. Why did these mid-western cities turn to Ward LaFrance for new equipment?

The answer is simply this. Over the past 30 years, Ward LaFrance Pumpers have proved their ability to perform under a wide range of fire-fighting conditions.

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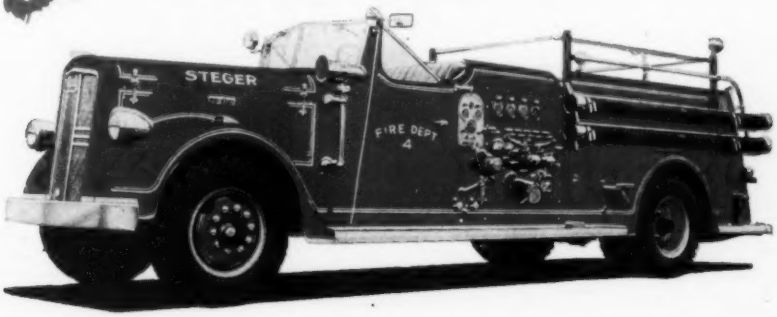

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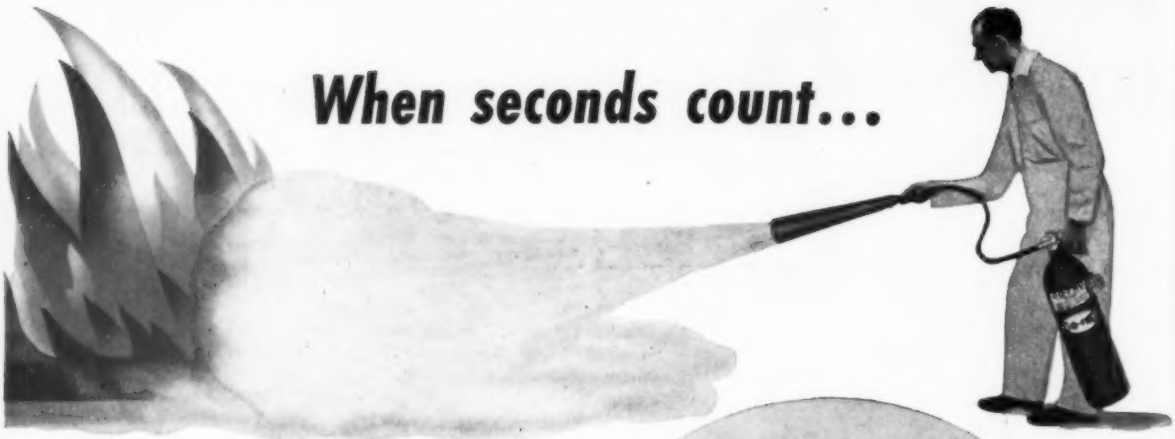

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C-O-TWO SQUEEZ-GRIP

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A quick squeeze of the lever and you get fast, positive fire protection with C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers . . . no loss of time or carbon dioxide while maneuvering around a fire. The C-O-TWO Squeez-Grip Valve is the greatest single contribution to the releasing of carbon dioxide for first aid fire fighting. Easy maintenance . . . only periodic weight checks required . . . carbon dioxide is good until used, not subject to freezing.

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Also, convenient 50, 75 and 100 pound wheeled sizes . . . available with sturdy, wide-faced wheels either with or without rubber tires, as well as available with or without discharge hose and horn protection cover.

Act now for complete free information on these top quality fire extinguishers. Remember . . . you can't put fire off . . . fire doesn't wait. Get the facts today!

C-O-TWO

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Squeez-Grip Carbon Dioxide Type Fire Extinguishers
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Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
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Sales and Service in the Principal Cities of United States and Canada

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IT'S TOPS

... the noticeably better performance of American Fire Hose is the natural result of skillful, painstaking manufacture. American does not compromise with quality—as a result critical buyers eventually standardize on American.

LAMINATED CONSTRUCTION 5 ... calendered sheets

CRACKERJACK

MUNICIPAL FIRE HOSE

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WHITE	*TREATED
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FLEXIBLE . . . balanced weave and premium yarn assure greatest strength and flexibility.

SMOOTH WATERWAY . . . lowest possible friction loss.

DEPENDABLE . . . unsurpassed for ruggedness and long life.

LOWEST COST PER FOOT PER YEAR

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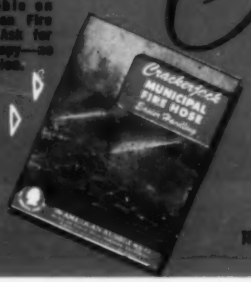

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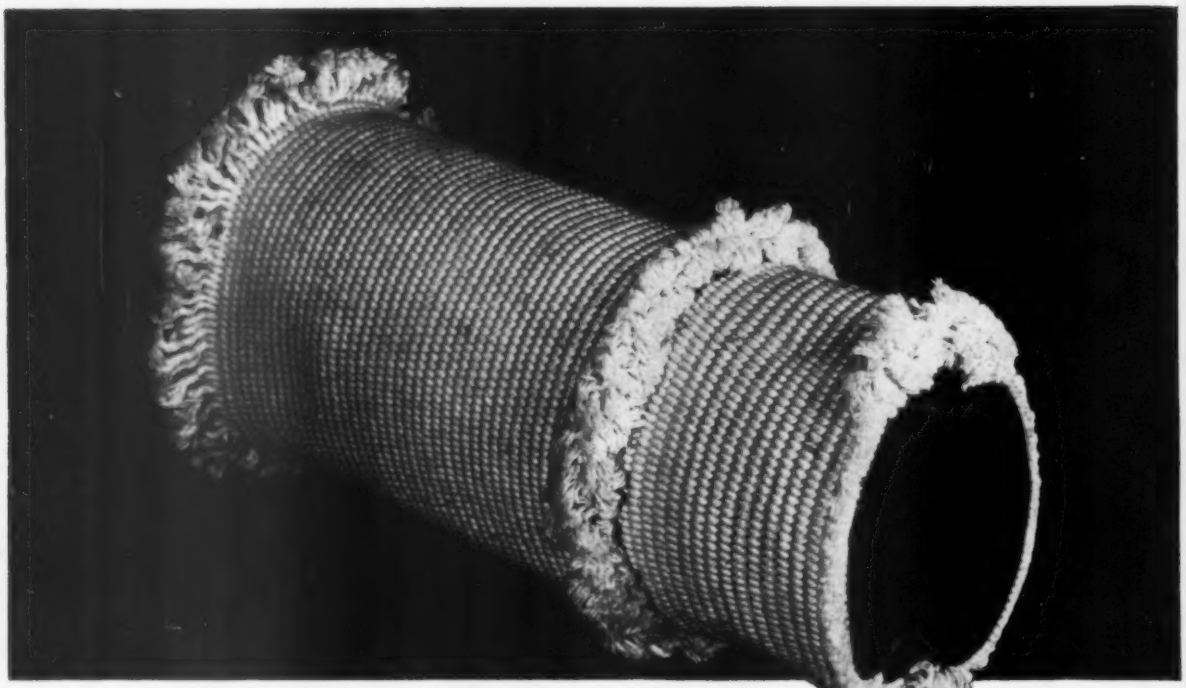

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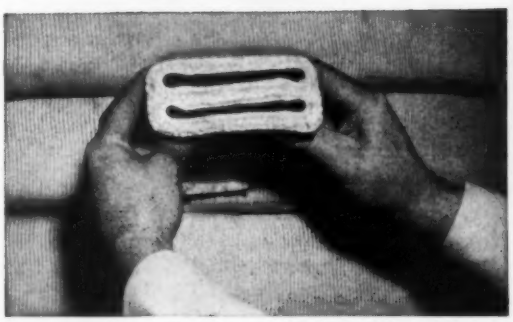

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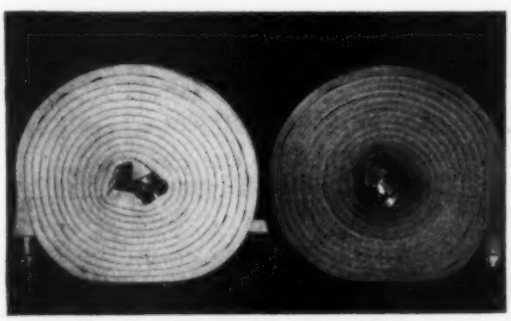

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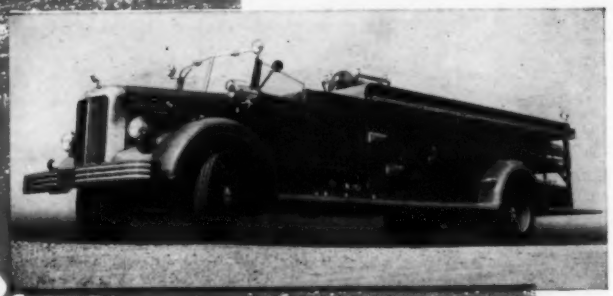

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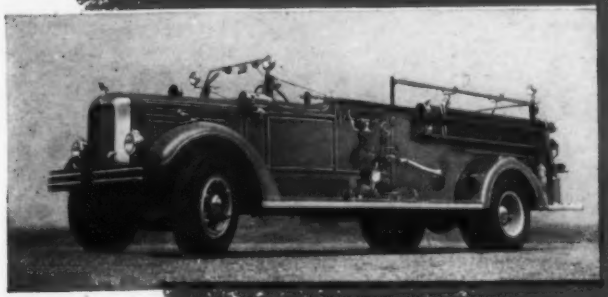

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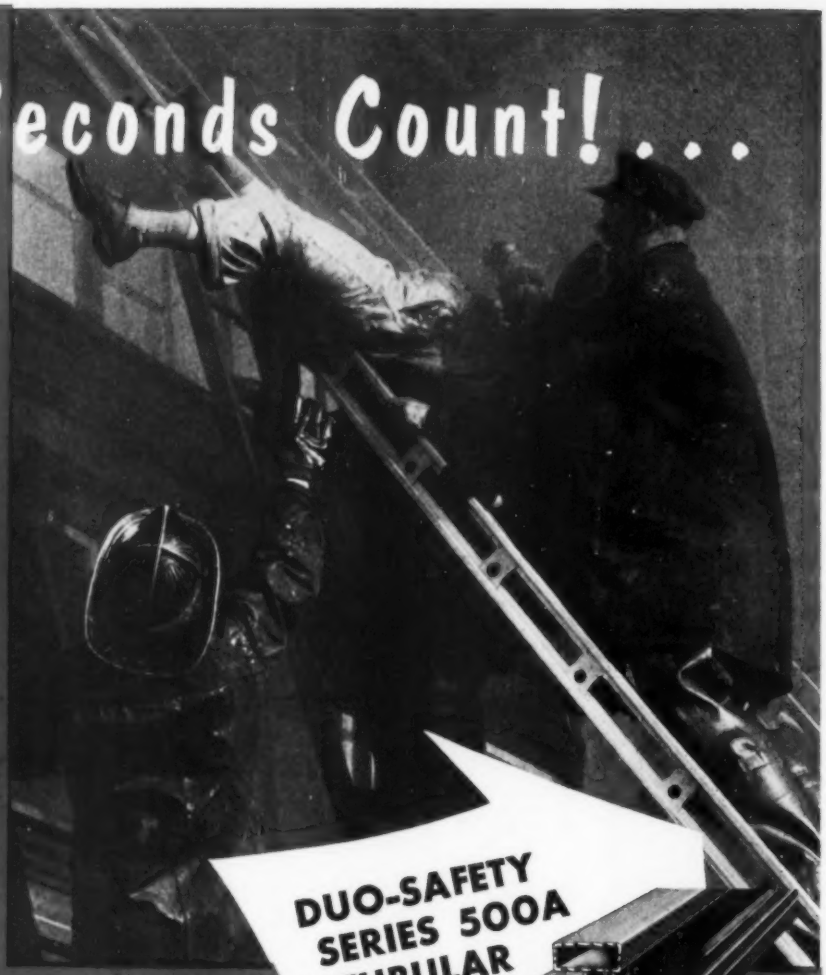

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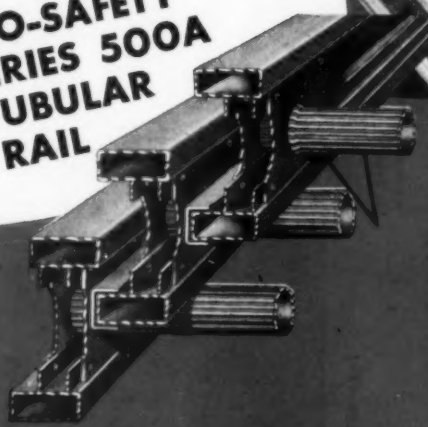

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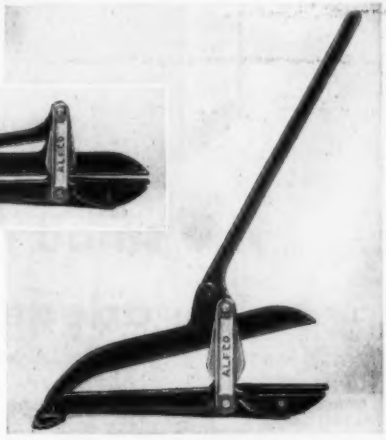

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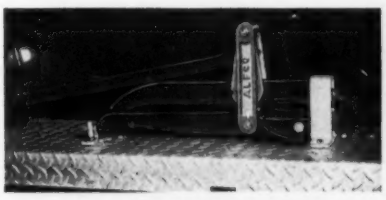

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MAY, 1953

FIRE ENGINEERING

VOL. 106, NO. 5

With the Editor

Jersey Justice? For many years the term "Jersey Justice" has been a byword in the prosecution of wrongdoers. It means that New Jersey lost no time in finding and bringing the guilty to their accounting.

That reputation perhaps was all very good in most criminal matters but it appears to have bogged down when it comes to the detection, prosecution and conviction of fire-setters.

New Jersey fire fighters, and they do not come better qualified anywhere, have long known the need for some state agency which would deal with arson, as well as fire prevention in all its forms. Time and again the investigation of suspicious fires, in all kinds of occupancies as well as in field and forest, lapsed for lack of some person or power to push the survey into the incident, come up with the facts, and spark-plug the prosecution and conviction of the guilty.

A recent example of a destructive fire of doubtful origin in that State was the general alarm fire of February 14 in Paterson, described elsewhere in this issue. Despite the virtual total destruction of the wire plant in which the fire started, the circumstances surrounding that fire warranted Paterson's Chief G. Hobart Strathearn to demand a broad scale investigation. This was undertaken a few days later by officials of the local fire and police departments, and representatives of the National Board of Fire Underwriters and the New Jersey Rating Bureau. Normally such investigations are left to local fire and police officials in New Jersey. But on occasion the Board and the State Bureau cooperate, as they do in other states which do not have any arson investigating and law enforcement agency of their own.

Chief Strathearn reported what has been said before by other worthy fire chiefs of that state, that there is vital need in the state for a bureau of trained experts who could be called in to determine the causes of fires and make recommendations to prevent recurrences. He pointed out that most states have a fire investigation bureau. The lack of an investigation body in his city, he said, isn't the fault of the police, which has cooperated fully with the fire department. There have been few fires in his city that have required special investigation, it is true, yet the overall fire picture demands that trained men be available to cover the entire state.

Local papers supported the chief, emphasizing that where investigations must be left to local fire and police, the results cannot always be satisfactory because such investigational work requires not only special training and skills but uninterrupted attention as well. "Municipal policemen and firemen are not specially trained in this particular field and, when circumstance does demand such activity they may find themselves bogged down with routine work which prevents constant attention to the emergency job," said the Paterson *Call*, editorially. And it continued: "Most of the States have fire marshals whose single function pertains to the study of fire prevention and, when need arises, to the investigation of arson. Why New Jersey, with its numerous areas of extreme industrial and commercial congestion has never seen fit to establish a fire marshal department, in the light of the usefulness such a department could serve, raises a large question."

The *Call* editor is right. The effective detection and investigation of suspicious fires is today recognized as an important and vital phase of public safety. There should be "Jersey Justice" in this field as well as in all other crime study, detection and prosecution.

Present trends indicate no dimunition in fires set by pyromaniacs and juveniles and the use of even more ingenious methods by the arsonist to escape detection. As a matter of fact, set fires and fires of suspicious nature appear to be on the increase in many parts of the country. This fact places greater responsibility for effective action in this field of crime.

The public interest, as well as that of the fire service, is best served by establishment of a state fire marshal department or other statewide authority, call it what you please as long as it is properly experienced and equipped for the task, and ready to work with fire and police.

New Jersey isn't the only state that could use such an agency. The cost would be trifling compared with the benefits that would result.

Only one essential is requisite in establishing such an authority: it should be divorced from politics!

Fred Shepard

What Can Be Done To Protect Nursing Homes and Sanitariums

Can The Fire Service Improve Its Strategy To Help Minimize The Losses in This Occupational Group?

By ROI B. WOOLLEY

Author's Note: **There are few mysteries connected with the appalling loss of life by fire in the type of occupancies variously known as nursing and convalescent homes. The real mystery is why these obvious hazards are permitted to exist. But they do and in so doing bring—for the most part unjustly—a certain amount of discredit upon the nation's fire service.**

Much has been written and said about fires in this classification, most of it however from other than the viewpoint of the fire service. So much emphasis has been laid upon making these homes and institutions fire-safe that the problems of the fire forces which must protect them, and their patients under universally serious handicaps, are often lost sight of.

In presenting this study, the author has attempted to slant it deliberately from the standpoint of the firefighter, in the hope that, if nothing else, it will at least provide fellow firemen with a 'check list' by which they can gauge their own limitations both as to human and mechanical facilities and protection plans and programs.

The author is indebted for their assistance to numerous FIRE ENGINEERING correspondents, in particular to W. A. McDonnell and George Beaumont, St. Louis, Mo.; to the National Board of Fire Underwriters; the National Fire Protection Association and the International Association of Fire Chiefs.

ON March 29th last fire raced through the Littlefield Nursing Home at Largo, Fla., taking 32 elderly patients and a heroic nurse to their deaths. Only 25 aged folks, barefooted and in night clothes escaped that inferno.

Already, only a few weeks since that tragedy, a public, surfeited with other and perhaps less harrowing news, has forgotten the grisly details of that holocaust, just as it has a long list of similar tragedies which preceded it. All but the relatives and friends of those victims, most of them advanced in years, and the fire fighters who had the gruesome tasks of fighting those fires and overhauling the ashes, have forgotten those incidents. Unfortunately, too, the voices of protest over the conditions that encourage such horrors seem "wasted on the desert air."

Still the carnage continues. Two tots dead in an unlicensed "children's home" in Chicago—a tragedy lost sight of in the greater cataclysm that took 34 lives in the burning of the Haber factory at the very same hour. And still more recently, the very narrow escape from a major disaster when fire struck the "Catholic Worker" on Christie Street, New York's Lower East Side. Only fast, effective rescue work by Manhattan fire fighters, some using aerial ladders, saved the day, and though seven were burned the lives of scores of indigent persons in this 75-year-old combustible building were saved.

According to figures released by the National Fire Protection Association, 147 peeople have been killed in 14 fatal nursing home fires in a little over two years. This of course does not include the many patients and others, some of them firemen, *injured* in rescue and fire fighting operations in these and the many other nursing home fires which did not result in fatalities.

"Nursing Homes" a Broad Classification

There is some confusion over the terms "nursing home," "convalescent home" and sanitarium." It is difficult sometimes to define this type of occupancy. Some "homes" take on the aspects of institutions, asylums or hospitals. Others are merely types of boarding houses.

For the purposes of this study, we shall include within its scope sanitariums, nursing homes, convalescent homes, homes for the aged and indigent, rest homes, infirmaries, invalid homes, hospices, and children's homes—all those establishments not regularly classed as hospitals, asylums, and the like.

The actual number of such occupancies is unknown, partially because of the difficulty in grouping them. The publishers of "Nursing Home Administration" classify as "nursing homes", those having 14 beds or more. That journal reports a distribution to 4,600 such homes. According to this authority, there are at least 2,000 more homes in the less-than 14 bed, and "untold hundreds" of other occupancies in the "homes for the aged," the infirmaries and kindred categories.

The "nursing homes" of any size are licensed by the Health Departments of nearly every State in the nation, but it is manifestly impossible to record all the others.

It is a safe assumption that these establishments, large or small, listed or unlisted, exist in some measure within the areas covered by every organized fire department in the country. The problem of preventing fires in these groups, and of controlling without loss of life those which do occur, is within the scope of every fire department, large or small.

Before attempting to analyze the factors which make these occupancies such hazards it would be well to check the causes of fires therein.

Fire Causes

The National Fire Protection Association, in its Handbook of Fire Protection, lumps the causes of fires in this field under one broad category, "Hospitals and Institutions" (Including Convalescent Homes, Nursing Homes, Orphan Asylums, Sanitariums, etc., except Penal). Therefore the table of causes quoted from the Tenth Edition of the Handbook, which follows, cannot be said to apply directly to the occupancies concerned with this article. However, the causes listed do provide a basis for study.

Out of 459 fires in this broad occupa-

The fire that took the lives of thirty-three at the Littlefield Nursing Home, Largo, Fla.

Charred and gutted remains of Jennings Hall in Garfield Heights, Ohio, a Catholic home for the aged, where fourteen persons died in a fire which swept through the frame structure after an explosion.

tional category, the following 19 causes are tabulated in order of importance:

Smoking and matches	21%
Misuse of electricity	16%
Fixed services 11%	
Appliances of fixtures 5%	
Heating defects	15%
Defective or overheated appliances 7%	
Chimneys and flues 3%	
Piping 2%	
Defective space heater 2%	
Inadequate clearance from combustibles 1%	
Spontaneous ignition	9%
Inadequate rubbish disposal	7%
Friction and static sparks igniting gases or vapors	4%
Repair and alteration	4%
Open flame devices, gas appl. and stoves	4%
Flammable liquids	4%
Explosions (heat and power sources)	3%
Incendiary	3%
Welding or pipe thawing	2%
Lightning	1%
Nitrocellulose film	1%
Miscellaneous	6%
Total	100%

It will be noted that this is a rather severe indictment of the fire safety measures for such hazards, smoking being generally prohibited in most of the larger, better run homes. Defects in electrical and heating systems are to be expected (and should be looked for) in such occupancies because of the almost universal alterations made to such buildings, changes in many cases "home made" and unrecorded.

Now, let us quickly review two of the more recent, typical fatal fires in this category.

The Littlefield-Largo Disaster

Littlefield Nursing Home, located in Pinellas County, Florida, four miles south of the town of Largo and seven miles from Clearwater, burned to the ground March 29, last. Death came to 32 patients and an heroic nurse. Also, the driver of a car removing a rescued patient of the Home was killed, the patient fatally injured, when the vehicle was involved in an accident.

The 125-foot one-story, rambling, nursing home was the abiding place for 45 elderly patients, the owner, Mr. William L. Littlefield and his wife, and a nurse. Originally occupied as a fruit store, for the last 20 years the building had been used as a nursing home, additions being added from time to time. No records were kept of these alterations as no architect's plans were made or construction permits filed, the work being done piecemeal, locally.

The main building which covered an area of about 7,200 sq. ft. was enlarged by additions on the east and north in 1950. Just south of the main building was a 1-story structure of about 1,000 square feet where 13 old men were housed. This was added about three years ago. A man and his invalid wife lived in a one-story, 4-room cottage, located a few feet from the northeast corner of the main building. In addition, three house trailers were parked in a row, parallel to the north wall of the structure. One was unoccupied, the others housing a maintenance man and a nurse.

The center section of the old building contained reception rooms and dining room. It had a porch, fronting on the road. South of it were kitchen storage room and supply room; in the latter was a deep freeze and large ventilator fan. Still further south was the garage and repair shop.

Construction was wood frame and exterior siding. Partitions in corridors and rooms were built of highly combustible fibreboard. This material was liberally used throughout the entire building and it provided shallow spaces between wood roof and ceilings over most of the structure. The patients' individual cubicles were formed by an exterior wall and each contained at least one outside window. These were reported not barred or heavily screened.

Fire protection consisted of a few soda and acid extinguishers. There were no sprinklers, no automatic fire detection or fire alarm systems. The nearest fire departments were at Largo and Clearwater, 3 and 7 miles distant respectively. Some fire protection was provided in the area by the Florida Forest Service. All these forces sent equipment without question as desired, for the protection of the numerous such homes in the district.

As is the general habit in such institutions, there was no regular night attendant, no watchman, no nurse regularly assigned to night duty. Supervision over the elderly tenants, many feeble in mind and body, was slack.

No one knows just how or when the fire started. It is not considered incendiary, however. It is said to have originated in the supply room, near the deep freeze unit, and was discovered about 3:15 A.M. when a patient woke the Littlefields after smelling the smoke which was then spreading throughout the main building. The fire apparently burned out the light system, which failed to function when switches were thrown.

The proprietor attempted first to extinguish the spreading fire in the supply room, using a 2½-gal. soda-acid extinguisher, which he discharged from outside through the ventilator fan opening. Another extinguisher was then discharged through a window, by then broken by the heat, but to no avail. He then turned to rescue work, aided by his wife and two attendants who had been aroused by the commotion.

There is confusion over just when the alarm was sounded, and by whom. The proprietor of a home across the street telephoned the Clearwater Fire Department at 3:36 A.M., it is said.

The first fire apparatus arrived at 3:51 A.M. By this time there was no hope of further rescue of anyone from

The Niles Street Convalescent Home at Hartford, Conn., after fire. Death toll reached 16, with more than a score of the patients badly burned.

the main building. Fire had quickly involved that structure and was entering the men's building to the south through windows broken by heat. The 13 old men were safely evacuated from this structure by Mr. Littlefield.

Not so fortunate were the other elders. Mostly feeble in mind and body, they failed to react to the warning shouts and banging on doors, and most of them stayed in their beds. A few of the bedridden were gotten out just before the flames roared through the entire structure, fanned by a west wind. Volunteers, and the few attendants and nurses, were balked in further rescue efforts. A nurse, who made several trips into the main building, was finally trapped and killed.

The first rig from Clearwater, a 235 gal. tanker under Chief Peter Treola, made the run of 7 miles in about 15 minutes. Fire was then extending to the cottage and trailers and threatening the Wright's Nursing Home across the street. Streams were used to cool this structure and it was saved.

Efforts to contact the Largo Fire Headquarters by telephone proved futile as telephone wires were burned and it was necessary for someone to drive the three miles to the station to give the alarm. The total force that fought the fire consisted of five tank trucks, two from Clearwater, one from Largo and two small State Forestry trucks. Boosters were used, the units filling their tanks at a Largo hydrant. In addition to saving the Wright's Home, half of the cottage next to the main Littlefield building was saved.

Immediately after the fire, there followed the usual probes. Governor Dan McCarty, on the 30th, called for a "crackdown on privately owned homes for the aged," while investigators searched the ashes for the cause of the fire. He announced he would support a measure placing private nursing homes under the State Board of Health. A similar bill was defeated by the General Assembly in 1951. And there the matter stands at this writing.

It will be noted that this was a large, one-story, 100-per-cent combustible building, typical of construction found in warmer climates, without basement or attic, but having un-stopped concealed overhead spaces through which fire could travel. In many respects it was very similar to the Jennings Hall Catholic Home for the aged, in Garfield Heights, near Cleveland, which burned on February 2, 1946, bringing death to 14 occupants.

Only the chimney and a portion of the timber framework is left standing after a fire swept this convalescent home in Branford, Conn. Four elderly persons died in the fire.

The majority of such establishments, however, are not of single-story design although they are "built to burn." Let us take another typical fatal fire in this other classification, that at Hillsboro, Mo.

Eighteen Dead in Hillsboro Fire

Eighteen persons, nine of them women, died from suffocation or burns when the main building of the Cedar Grove Nursing Home burned in Hillsboro, Mo., on Friday, October 31, 1952. Some 36 others were injured, one severely, in the smoky fire.

The Home was operated by Mr. and Mrs. James Lewis, the latter a registered nurse. It occupied a 4-acre tract overlooking State Highway 21, about 37 miles south of St. Louis. It consisted of a 3-story converted residence about 40 ft. by 30 ft., of concrete block exterior, frame interior and roof, with gable windows on north, south and west sides. It is reported that wired glass was used in gable windows and that some others were covered with a plastic screening. The east end of the third floor had a barred door which led to a wooden stairway.

The main building was erected as a residence in 1914. Two annexes were added since 1950. These were wood and stucco, one-story each. The buildings set approximately 250 feet from the Highway.

The Home had two outside wooden stairways running from the 2nd and 3rd floors and a recently completed metal fire escape. Only walking patients were said to be housed on the top floor but there were reports that some patients on this floor were strapped to cots or beds.

There were 85 patients in the institution at the time of the fire, 55 located in the main building, the remainder in the two annexes. According to a statement of the director of the Jefferson County Health Department, the Home "was regarded as a satisfactorily operated establishment, adequately staffed and equipped." No fire hazards were found "in the last inspection made June 30."

The fire was discovered by the nurse in charge at shortly after 5:00 P.M. She said an electric light wire began cracking and emitting sparks from the ceiling of the first floor hallway. She sounded the alarm to the Hillsboro Fire Department.

Fire Chief King of the Hillsboro department was at his home only about a block away when the siren blew at 5:15 P.M. He immediately ran out to get into his machine and there he was informed by a boy that the fire was in the Nursing Home.

The Chief ran to the Home and entered the front door, where he was told the fire was on the second floor. Going upstairs, he found the smoke very heavy and he could feel the heat coming through the floor.

He aided two old ladies out and then ran down to the first floor where he found the linen room fibreboard parti-

Eight elderly persons, including six women, perished in a fire which raged through a convalescent home near Schenectady, N. Y., reducing it to ashes within an hour. Seven others were carried to safety in their nightclothing through snow and twenty degree temperature.

Shell of the three-story concrete block main building of the Cedar Grove Nursing Home at Hillsboro, Mo., which was destroyed by fire. Eighteen aged persons perished in the blaze.

tion and the men's room in the southeast corner of the building totally involved. He procured three extinguishers, reportedly of the soda and acid type, which he used on the fire, but with little or no effect.

In the meantime the apparatus had pulled in and men led a booster line into the first floor. The booster tank was quickly exhausted and a 1½-in. line was laid 300 ft. from the Hillsboro pumper which connected with a hydrant. When it became obvious that the fire was beyond the power of the local department to hold it, and with realization of the life hazard, help was called from Desota, 7 miles south; Festus, 11 miles east; East Crystal City, 12 miles east and Goldman, 5 miles northeast.

When these units connected to the three other available hydrants, water pressure dropped seriously and suction was then taken from a Pond approximately 400 feet distance across Highway 21.

Although rescue efforts were begun the smoke soon drove rescuers away from the upper floors. Most of the dead were found on the top floor, five bodies at the locked exit door. Volunteer firemen and nearby residents managed to effect many rescues, some of them nonambulatory patients. Firemen brought 9 patients out onto the porch roof and thence to ground by ladders.

Fire fighters encountered considerable difficulty in breaking out windows to ventilate and to enable them to get streams onto the fire, which ate its way into the upper section of the building. Goldman volunteers told a FIRE ENGINEERING correspondent that the wired glass in the gable windows could not be broken out, and that a shotgun was employed to blast holes in them in order to get water inside. Notwithstanding these difficulties, the fire damage to the lower part of the building was held to a minimum.

As in the case of other fatal fires in such occupancies, the age, and mental and physical condition of the patients housed therein, made rescue difficult. There were no sprinklers, or automatic alarm system, these not being required in such occupancies in the State. In Missouri, as in many other States, nursing homes are licensed and supervised by the State Division of Health. It is said a bill was presented by the Missouri State Council of Fire Fighters to the State Legislature in 1951, calling for a State Fire Marshal, but this was defeated. The measure was again submitted in 1952 but as yet the State still lacks a Marshall, as well as strong fire safety regulations governing these occupancies.

The two foregoing case histories could be multiplied many times. Except in degree and extent of casualties, they are typical of fires in this occupational classification and of the problems faced by the fire service in meeting fire emergencies in such properties.

From the long record of these tragic episodes it is possible to draw the following conclusions.

Location Usually Unfavorable

This type of occupancy is more often found outside of municipal subdivisions, in suburban, or rural areas. This is due largely to the desire to escape the more restrictive codes and ordinances requiring fire safety in the cities. Another reason is that of late years country and suburban mansions and clubs, which could no longer be kept up by owners, have been more plentiful, many being offered as 'bargains.' Furthermore, the cost of alterations and maintenance is lower in these areas than in the municipalities, with their higher taxes and tighter labor organizations.

Away from the city, also, this type occupancy has greater privacy, is less subject to the annoyance of safety laws and inspections by fire service, building, health and other agencies.

Where converted dwellings, clubs or the like, are so occupied, they are frequently set back from the main highway or other approaches. Some are quite remote from main thoroughfares and are located on secondary or country roads or lanes making approach for fire forces difficult. Others may be located at waterside, further limiting approaches. In many cases, efforts at privacy include omitting all address and/or directional signs.

This remoteness and seclusion tends to complicate the problem of providing municipal or other outside fire protection, particularly where the area is served by volunteers who must respond in their individual cars and where they and apparatus are subject to inferior, poorly marked thoroughfares and possibilities of congested traffic.

In the suburban and country areas, these institutions are often protected by fences, some of them requiring the use

Chained for the night to concrete slabs in cells like this, several mental patients perished when fire broke out in the Bella Vista Sanitarium, in suburban Philadelphia. Note padlocked bolt on screened window.

of ladders to surmount them. Many are of heavy wire which require special cutters. Under these conditions there is usually only a single driveway approach to the property and this is customarily guarded by a locked gate.

The approach roadway is frequently narrow, twisting, and not always favorable to the movement of heavy fire apparatus, particularly aerial ladder trucks. There are at least two incidents recorded in one county where apparatus became stalled or mired through collapse of planking which bridged a small stream (road hazards that were unknown to the responding fire forces).

Another handicap that has interfered with rescue and fire fighting operations are trees and planting adjacent to the structure involved in the incident. Laddering the building, especially at night and under heavy smoke conditions, where ground extension ladders must be used (aerial ladders are not always immediately available in these fire districts) is a problem. In a number of such fires, firemen have met additional handicaps in the form of power and telephone wires strung into and around the involved buildings.

The topography of the area may be a detriment to effective fire force operations. It is not unusual for these institutions to be located at an elevation, with approaches at grade. Wind velocities are above normal, and water pressures usually below normal under these conditions.

Another hindrance noted in some reports is the blocking of approach thoroughfares, and grounds immediately adjacent to the involved structure, by parked automobiles.

Buildings Built for Destruction

Study of these institutions discloses that, almost without exception, the buildings involved in fatal fires were "built for destruction." Most of them were never designed or constructed for the purposes to which they eventually were adopted. Generally they were originally dwellings or clubs. Most of them received some structural alterations. Regrettably enough, these changes were not made for fire safety but for convenience of revenue. Many buildings in which there occurred large loss of life had been enlarged by the addition of wings, and floors, false ceilings and cubicles. In too many instances, these alterations included use of highly combustible fibreboard.

Humanitarian considerations of course should dictate the needs of such homes to provide fire safety, the same as hospitals and like institutions. Unfortunately, these considerations have been lost sight of, for the most part on the grounds of costs. It is said that to provide buildings meeting modern safety requirements would be so costly that, in effect, elderly and indigent people, who most need such care, would be denied it.

Lack of space precludes itemization of all the structural fire safety deficiencies met with in such occupancies. The following are more commonly encountered:

Combustible floors, walls, ceiling and trim predominate. Walls and roof frequently covered by asphalt shingles. Interior walls may have numerous layers of paper or paint, or furred-out spaces.

Almost total absence of fire and smoke stops. Fire may have uninterrupted vertical extension. Large unbroken attic and basement spaces. On the other hand, these areas may be subdivided into numerous cubicles to house patients or employees, or for storage of combustibles.

Open stairways and stairwells and other vertical arteries from basement to attic. Buildings frequently have had dumbwaiters, linen chutes, air conditioning and heating ducts or other vertical openings installed.

Hallways and stairways unsuited to free movement of wheel chairs and conveyances for non-ambulatory patients.

Windows or other openings onto external fire escapes not readily accessible for egress (some have been found blocked by beds or storage). In some occupancies, windows are covered by bars or heavy screens. Use of wired glass windows.

Lighting inadequate. No auxiliary lighting system, particularly for halls, passages and stairways. Lack of illuminated exits and/or direction signs.

Sub-standard heating, cooking and lighting systems. Alterations and installations done by "handyman," or jack-of-all-trades. Overloaded electrical circuits and other electrical defects are common.

Kitchen and laundry areas not cut-off from rest of building. Lack of fire doors and, where they exist, they are frequently encountered wedged open.

Large frame domes or spires and gables, not easily accessible to fire fighters. Large cornices and chimneys are a handicap.

Wooden lockers for employees. Poor housekeeping throughout structures. Living quarters for help lack adequate exits and ventilation. Sometimes located over shop areas in combustible buildings.

Exits generally inadequate. No secondary means of egress. Few that house helpless and bedridden patients have ramps. Stairs unprotected by hand or guard rails. Unscreened areaways. Revolving exit doors have been encountered. Room and/or corridor doors too narrow to permit passage of bed.

Water Supplies Usually Deficient

The more remote these occupancies are located, the greater the problem of providing adequate water supplies for fire fighting. Water is generally inadequate for any effective attack in force. Indeed, in numerous instances, fires have had to be fought entirely with the supplies carried in booster tanks or tankers. Few such institutions have provided for emergencies by building wells or creating ponds or other static supplies. In one case, although such source was on the grounds of a burning institution, there were no approaches to the small lake and apparatus bogged down endeavoring to cut across lots to it. In another, a well was built, but so close to the building as to endanger apparatus which tried to draft from it.

In cities and suburban areas where municipal water is available, these properties are often situated on dead-end mains of deficient capacity. Hydrants are few and far between, and not many such institutions have fire hydrants on the grounds. Where such hydrants do exist, they may be inspected and tested only infrequently; it is not unusual for a fire department responsible for protecting an institution to have no part in such tests and inspections, and to be quite ignorant of the available water supplies which they might expect under varying weather and other conditions. It is not unusual under these conditions for hydrants to fail when the emergency arises.

It is also regrettable that none except

(*Continued on page* 418)

The law required metal fire escapes to be placed on this Rye, N. Y., converted dwelling when it became a convalescent home. They were, but a hot fire which mushroomed from a basement window rendered it useless. Only the fast, effective work of local firemen and the fact the blaze occurred at the noon lunch hour instead of at night, prevented heavy loss of life in this Bradford Mansion convalescent home, June 9, 1951. Fourteen elderly patients were safely evacuated. Two firemen were overcome in the $15,000 fire. Low water pressure, need of relaying, traffic congestion, spread of fire through concealed spaces were some of the handicaps volunteers faced.

Arson Investigation

4. Interviewing Witnesses

By BERNARD W. MULCAHY
Chief, Fire Prevention Bureau, Cleveland, Ohio

THE most important function in the investigation of an incendiary fire is the proper method of interviewing witnesses. The purpose of all such interviews is to obtain all the information possible from persons having personal knowledge of certain facts concerning the fire. Such interviews should not be confused with the interrogation of a witness or a suspect. An *interview* is simply contacting persons whom the investigator believes has information which will help him in his investigation. An *interrogation* is the examination of a person by detailed questions, persons whom the investigator believes are withholding vital information.

Trails, fuses and leads leave their tell-tale mark on floor.

The investigator will obtain a great deal of information which will be helpful in establishing his cases from witnesses who have information as to the conditions that existed at the scene of the fire at the time of the outbreak and who may be able to furnish pertinent facts to unusual activities or strange happenings prior to the discovery of the fire. He must interview at the earliest possible moment the person who discovered the fire and the person who gave the alarm. These people may be able to furnish valuable information as to the general appearance of the fire, when they first noticed it.

They should be questioned as to the color of the flame, the appearance of the smoke, whether or not it had a distinct coloring, the progress of the fire, as to how quick it seemed to spread through the structure, whether they noticed any peculiar odors, or saw any strange movements of persons in or about the premises prior to the fire. They should be asked to estimate as accurately as possible the time of the outbreak. This should be checked against Fire Department records for the elapsed time between the discovery of the fire and the turning in of the alarm.

Valuable evidence may be obtained from these people, such as: the use of stimulants, trailers, highly combustible articles, i.e., excelsior, wood kindling, wood or other articles which may have been used to accelerate the spread of the flame. In interviewing such persons, it is good practice to first permit them to tell their story in their own words. Afterwards, questioning them minutely as to details.

Others who may have information which will be of value are the firemen who first arrived at the scene of the fire. They, too, can give facts as to the conditions of the fire in its early stages,, such as the color of the flame, the smoke, peculiar odors, etc.

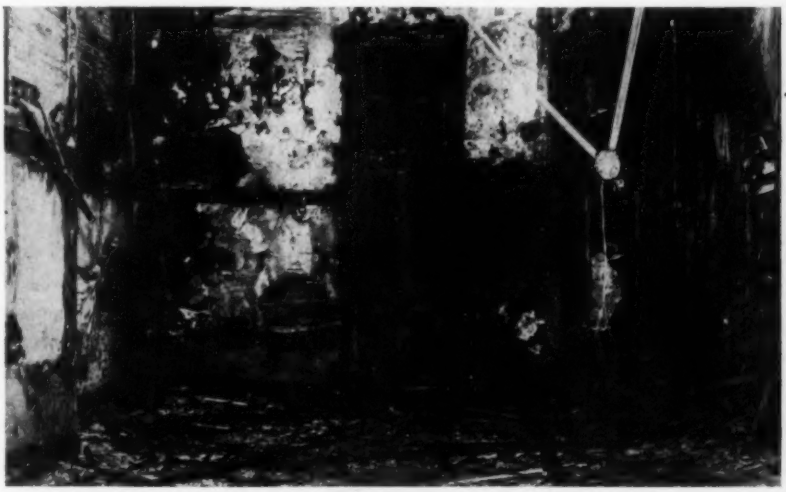
We have discussed the relationship of flame color to temperatures; smoke will also tell the investigator a great deal about the material burning, the air supply, and the speed of combustion.

The chemical composition of smoke is a mixture of carbon monoxide, carbon dioxide, nitrogen and other gases, depending upon the nature of the material burning, water vapor, and particles of carbon and ash. The appearance of the smoke in the early stages of a fine can materially help the investigator in determining what combustible materials may have been used to start or to stimulate the fire. Where there is a heavy black smoke, there usually is large quantities of unburnt carbon and this could mean the use of flammable liquids to stimulate the fire. A dirty gray smoke is given off by hay, straw, or excelsior. Reddish brown smoke indicates various oxides of nitrogen and the investigation may reveal burning film or celluloid. Where white smoke appears before there is any hose streams in action, this indicates a damp material. Yellow smoke under pressure, pushing from every opening, gives a warning of a hot fire with insufficient air and, when the air is supplied, fire breaks out all over the building.

Flames also tell their own story; a free-burning fire with shooting flames indicates a dry material with a good supply of air. Darting flames and sudden ignition also indicate accumulation of gas and the danger of an explosion.

A large volume of white-hot flame indicates intense combustion with a good supply of air. This may mean escaping gas or that a highly combustible material is involved. Dark red flames and large quantities of smoke point to a limited air supply which could mean that the stock is in piles or bales.

Firemen will be valuable witnesses as to whether forcible entry had to be used to gain entrance to the building. Also important are: the condition of the furniture or merchandise, the relative amounts and quality of same, any unusual arrangements of the contents of



Find the seat of the fire—look for reason.

the building, such as furniture, packing cases or other articles placed to impede the entrance of the Fire Department. They also must be questioned as to the unusual action of any persons during the progress of the fire. More will be said on this when we deal with fires set by irresponsible persons.

It is highly essential to interview the last person known to be in the building. This person should be questioned in the most minute detail as to the conditions which existed when he or she left. Had they noticed anything unusual about the behavior of anyone connected with the firm or establishment? Were conditions the same as they had been on previous occasions when the place was closed for the night? All tenants and employees should be interviewed as to the nature of the business, the storage of merchandise or the placement of furniture or other articles. Tenants also may be able to give information as to any departure from the regular habits of the occupant of a suite or establishment where the fire occurred. Frequently tenants volunteer information which is of the utmost value in obtaining arson convictions. In any case, no investigator should pass over lightly any information volunteered, irrespective of how insignificant it may appear at first.

Neighbors should be checked to see if they have any information as to the removal of any goods or household furniture prior to the fire. They also may be able to establish whether there was any loading of trucks or other vehicles at night. Had they noticed any peculiar odors or other suspicious circumstances in connection with the fire? Very frequently disinterested persons furnish information which is highly important in the investigation of incendiary fires.

Frequently the investigator or the police may obtain anonymous letters. While in most cases anonymous letters should be consigned to the wastebasket, in the investigation of arson fires it is important to bend every effort to locate the author of such letters for questioning. The envelopes in which they are received should be checked for possible finger prints, the handwriting or typing should, where possible, be checked against known samples. In rare instances, anonymous letters contain facts which are extremely valuable to the investigator.

After a thorough analysis of the fire and interviews with witnesses or other persons who had knowledge of the building and its contents, the investigator will be able to form certain conclusions as to its origin.

Where he can determine the cause of the fire as accidental, he can conclude his report and close the case. Where he is unable to determine the cause of the fire, where the physical evidence and information obtained from witnesses point to the possibility of an incendiary fire, or where there is prima facie evidence of arson, the investigator will then look for motives for an incendiary fire.

Looking for a Motive

In checking for motives, he will closely question the owner or occupant as to any known enemy or any threatening letters received, any disgruntled employees or labor trouble or if there were any reason for a revenge fire. The investigator will study any past fires in the neighborhood and note if they follow a pattern. Usually when fires are set by a so-called pyromaniac or irresponsible person, these fires all follow a similar pattern. Information may be obtained from the firemen in the district where the fire occurred, particularly where there have been other incendiary fires, whether they noted any suspicious person at these several fires. As a rule when a fire is started by irresponsible persons or juveniles, these people are often quite prominent at the scene of the fire. They attempt to give assistance to the firemen and generally draw attention to themselves by their attitude and behavior. When the investigator obtains information that there has been such a person on the scene of the fire, he should be checked and interrogated. His past record should be investigated and it may be found that he has been suspected on previous occasions; and often it will be found that such a person has been previously confined in institutions.

It should also be investigated as to whether the fire could have been used as a means to cover another crime. Where this is true, there usually will be evidence of such a crime that may be found upon closer examination.

Frequently, even in good times, fires are started for profit. The investigator in his preliminary investigation will attempt to form some opinions as to the values of the goods, furniture or merchandise in the building. He will, in many cases, find that the owner or occupant is carrying an excessive amount of insurance. He should also check to find out if any of the original goods which were insured have been moved from the premises and replaced with a cheaper line. There have been many instances where worthless junk has been substituted for the original merchandise or furniture which was covered by the insurance policy. In examining the debris, from the burnt and partially burnt material, and particularly the material which has not been damaged by fire, he can assure himself as to whether or not the goods in the building at the time of the fire were over-insured.

Time fuse consists of an electric hot plate and container of gasoline.

He must also check to see if any particular large debts or notes are past due, or due for payment. In doing this, he should check the bank balance to see whether there were sufficient funds on hand to meet this expected demand. He must check the suspect's past record to see whether he was prone to have fires and particularly whether any past fires were suspicious. If the suspect has recently moved to the city from some other town, his record should be checked in the city or town where he had previously been located.

The investigator must center his attention on determining the economic motives for the fire. A conference with the insurance adjuster, who is usually on the scene early, may turn up some fact which will be extremely helpful in developing the case. The adjuster usually has access to the owner's books and records of operation. Furthermore adjusters are usually experienced in interpreting these facts. Where the facts indicate, the investigator can ask for a careful audit of the owner's books and records. In many cases it will be found that they have been falsified.

The adjuster may often be of help as to the insurance which is in force and explain any detail of policy violation. It is important that the investigator determine the expiration date of the policy and if the insured would have been able to renew such policies. Insurance information is extremely valuable in the investigation of fires suspected to have been of fraudulent nature. Where overinsurance can be proven, it is a good asset to the investigator in presenting his case to a jury.

Another factor in fraud fires is the changed economic value of the property, which may have been affected by changes in the neighborhood, by obsolescence of the building or changes in the utility value of the premises. Where the investigator finds these facts, he can prove that the owner benefitted by the fire. Another economic motive is where a company or corporation outgrows its manufacturing plant and is anxious to locate in a larger one on another site. In all fires where fraud is suspected, the investigator must look for a motive that induced the owner to set fire to his property. In doing this, it is, of course, necessary for every investigator to use his own tact, experience and common sense in attempting to clear up the facts.

When the investigator finds evidence that the fire might have been anticipated, or at least that it was extremely welcome for financial reasons, it is quite important to immediately check his source of information and obtain signed statements from his informer as to their reason for believing this.

When the investigator is thoroughly satisfied that he has obtained all the evidence that can be found at the scene of the fire and has interviewed all the known witnesses as to possible facts which can be of help in solving the case, it is well for him then to take time out and quietly review the evidence. If, after analyzing the evidence and evaluating it as to which is direct and positive and that which is circumstantial, he is satisfied in his own mind that the actual commission of a crime (the corpus

Trail to pail of gasoline which never ignited.

delicti) can be clearly established, he should review his list of persons who may have had a motive for starting the fire. In many cases, he will find more than one who had a motive. However, a careful check of all the suspects will eliminate some of them and the investigator's suspicions will naturally center on one or two persons.

Preparations for Court

At this stage of the investigation it is well to think in terms of the presentations of the case to a jury. Where the case must be developed on circumstantial evidence, it is imperative that the investigator evaluate the character of the evidence before him. Proof in such cases will depend upon a clear illustration which will convince a jury from the combination of circumstances that the person charged is guilty as accused.

With this in mind, the investigator will start to build his case. In collecting the evidence (and preparing the witness) which he intends to present in court, he must see that accuracy as to times, dates and places is correct in all details. While he is obliged to trust in what others tell him, he must check for himself and test the veracity of their statements, by personally examining the locality, checking dates, and times, making measurements and comparisons. In all cases, signed statements from the witnesses are extremely important in developing a case.

Where a fire has been deliberately set by the use of stimulants, such as chemicals or flammable liquids, it is important to be able to prove where these materials were obtained. The investigator must visit all druggists, chemical supply houses, garages, hardware stores and filling stations where the material could have been purchased. This work is difficult and in many cases very disheartening as there are many such establishments in most towns, cities, and in large cities the number is so large that it would be impossible to visit them all. However, by canvassing the neighborhood in the vicinity of the fire and the suspect's home, often the investigator gets a lucky break and finds where the articles were actually purchased. When he finds the establishment where the articles were purchased, he should obtain the date when the purchase was made, the sales slips and an identification of the purchaser. A statement from the salesman who sold the material should contain all pertinent information that such persons can give.

As stated above, the evidence in arson cases may be of a positive and direct nature or may be purely circumstantial. In cases where the evidence is direct, such as a witness that actually saw same person start the fire, it is important that the investigator check the creditability of the information. He may find that such information is entirely wrong. Experience has taught that very often such information may be of a malicious nature motivated by a desire for revenge. Also, it must be borne in mind that many people will give false information in order to seem important or to obtain publicity. There are pathological liars who for no apparent reasons give evidence or bear false witness. The spectacular nature of a fire naturally brings these people out with their false information. Then, too, the person giving such information may be attempting to direct suspicion from themselves to another. While such information must be acted upon immediately, it is quite important in all these cases to obtain substantiating evidence.

The investigator must have a thorough knowledge of the laws of his State as they apply to arson, particularly the authority delegated to the State Fire Marshal. In most states the Fire Marshal has the authority to subpoena witnesses and compel the production of papers, books and records. All agencies connected with an arson investigation should work together and the investigator should not hesitate to call upon the office of the State Fire Marshal if the need arises for the use of subpoenas, etc.

However, when an investigator wishes to question a witness or a suspect in an exploratory interrogation, it is best to do this without the use of a subpoena whenever possible. In this connection it is well for the investigator to remember that he has no arresting powers unless it is specifically granted by statute. Where an arson squad is set up, it is well to have the necessary legislation enacted, granting them police powers. The investigator must be very careful in his use of these powers and should not make an arrest or confine a suspect unless he believes that he is about to leave town or he is quite sure that he can hold him for court.

Apprehending a Suspect or Important Witness

In the vast majority of cases a suspect or important witness can be contacted immediately after the fire or will be available for questioning, as they are usually residents of the town or city and

(*Continued on page* 436)

Note combustible material and flammable liquids set under gas meters.

Practical Fire Service Rescue

Part 7 of a Series

By JOE MAHAFFEY*

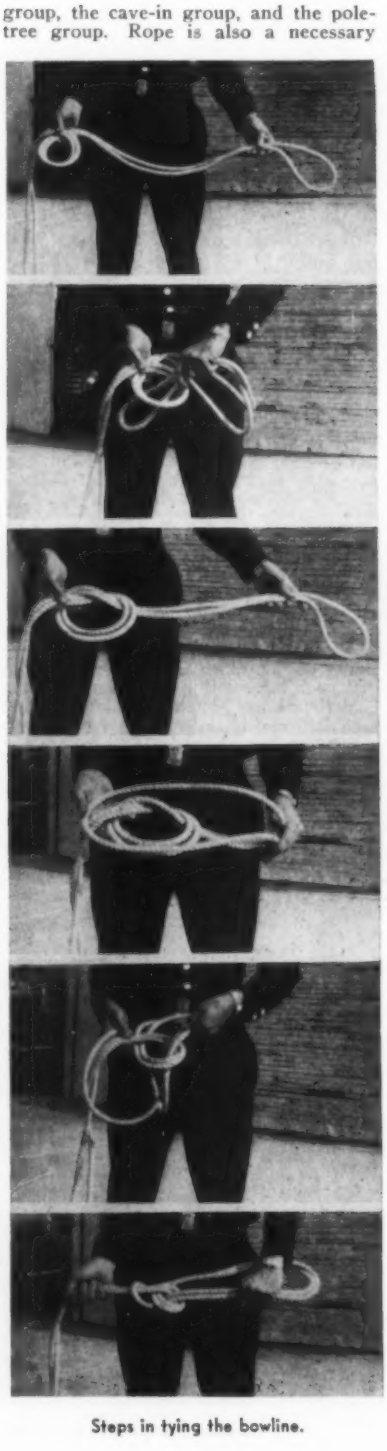
ROPE is an important part of Rescue equipment and is used in many ways. It is used to lower victims from heights and to raise victims from depths. It is used to raise and lower rescue equipment. It is used to confine victims to stretchers during transportation operations. It is used for personal protection and in many other ways.

Rescue personnel should practice and learn well one method of tying victims for raising or lowering, as the "bowline on a bight" which is adaptable to men, women or children. They should also give serious forethought to methods of confining a victim to a stretcher, and practice safe knots that will not slip. They should also know of the value of snubbing when lowering victims from precarious heights and methods of weaving and rendering a rope in ladder work.

The bowline on a bight with half hitch. Follow half hitch with safety knot to prevent chest compression (two half hitches on the bight of a granny knot).

On each rescue apparatus there should be at least one ¾-inch line, one hundred feet long; and one ½-inch hand line, one hundred feet long. In addition, there should be a ⅝-inch, 100 foot rope with two double sheave blocks to be used as tackle when a weight to be raised or lowered exceeds manpower available. There should also be an extra single sheave snatch block for a high lead to enable a ground crew to raise or lower equipment to rescue personnel. At least two ¾-inch double-eyed rope straps, eight to ten feet long, will facilitate the use of block and tackle.

Rope is included in several groups of equipment intended for special types of rescue as: the minor demolition group, the cave-in group, and the pole-tree group. Rope is also a necessary adjunct to equipment described below.



Steps in tying the bowline.

The Pompier Belt. The Pompier belt is used for rope and ladder work. It is made of webbing and leather and has a large metal spring snap and leather scabbards for hand tools. The metal snap is for "tieing in" to a ladder or other object and for "snubbing." By taking one to three turns (depending on weight) on the snap with the bight of a line that is fastened at the top end, the wearer can lower himself easily and safely. The "snubbing" process can also be used in reverse. When it is necessary to lower a victim by rope, the rescuer can tie the victim to one end of the rope (or use a snap-on harness), throw a "snub" on the snap, brace himself, and lower the victim. It is much easier and safer than lowering hand over hand. Gloves should be worn to prevent rope burns.

The Snap-on Harness. The snap-on harness, used extensively by major utility companies for rescue of their own personnel, is made up with spliced ½-inch rope, harness snaps and harness rings. It is sometimes much easier and quicker to use this equipment to secure a victim for raising or lowering than to use the bowline on a bight.

The bowline on a bight used as a cradle sling.

Pole Climbers and Safety Belt. The climbers and safety belt are part of the pole-tree group. It may often be necessary to resuscitate a victim or administer oxygen during a pole-tree rescue. Spurs should be of an approved make.

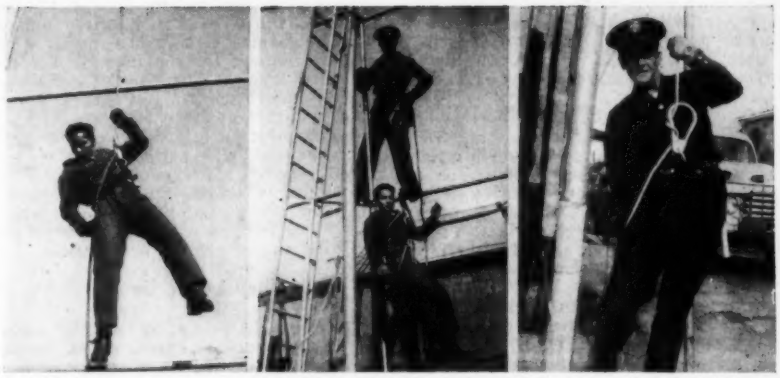
The points should be kept sharp. File only from the shank side of the gaff. Care should be taken that the points are not dropped on concrete or other hard material. When walking with spurs on, care should be taken that the points do not become blunted or broken on racks, metal or other hard substances. The leather straps should be checked periodically for cuts, breaks, weakness, and treated against loss of

*Los Angeles County Fire Department.

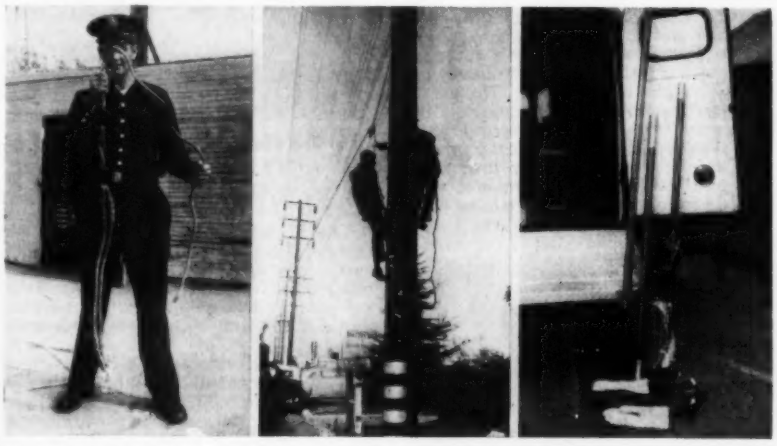
"life." The belt may be the lineman's leather tool belt type or the webbed safety belt type. In choosing the belt, recognition should be given to the fact that the belt may have to support the weight of two or more persons. Both a leather (cord fabric preferred) safety strap for pole climbing and a wire-cored safety rope for tree climbing should be supplied. Examine and test periodically. It is important that the springs of the latch of the snaps shall not become weakened or loose their resiliency.

It may be assumed that any pole-tree rescue might be involved with electricity, in which case the live line group would be a necessary part to the rescue. The live line group includes:

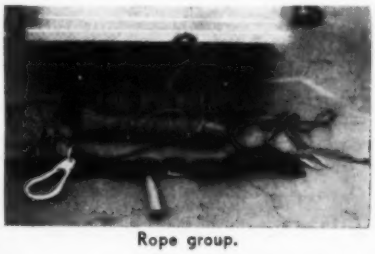
The Pike Pole. The pike pole may be used to pull electrically charged wires from victims, or victims from wires or other conductors. It may be used in water rescue or fire rescue or to pull victims from holes or entrapments into which the rescue cannot get.



Left: Snubbing with pompier belt. Center: Snubbing in reverse. Note use of snap-on harness. Right: Snubbing: 1 man, one turn around snap; one man with victim, two or more turns, depending on weight. Always start turn with lead end, never with loose end. Note rope rendered over thigh for breaking power. Descent can also be controlled by ground crew with loose end.



Left: Snap-on harness. Leg rope, 31 inches eye to eye; shank, 7 inches ring to ring; chest tie, 66 inches eye to end. Center: Pole-tree group. Right: Live line group. Note circuit breaker in rope of wire cutter (sometimes called "mechanical axe").



Rope group.

When a rope ring is installed on the butt end of the handle, its use may be extended and value increased. The handle should be sanded smooth, thoroughly dried, and treated with three coats of orange shellac (or preferably Glyptol Varnish as recommended by the Edison Company. "Wood must be within 3 per cent free from moisture. Scrape and sand off all old finish to new wood. Sand smooth and free of slivers. Apply thin coat of one part Glyptol Clear Varnish #1202 reduced with three parts Glyptol Thinner #1500. Allow 24 hours drying time between coats. Apply three coats. When finish is damaged to permit moisture to enter wood, sand smooth and refinish.") Dirt is a conductor. The handle should be kept clean and dry.

The Wire Cutter. In using the wire cutter, the safety factor, given in a preceding chapter, should be considered. When cutting an energized wire, keep the hands, if possible, three feet back on the handle from the cutting tool on low voltages. On high voltages, use the safety factor times three, using the extra four foot extension handle when necessary. Always wear gloves. Treat the handle as recommended for the pike pole. Arcs often damage the cutting blade, spare blades should be provided. When ordering, circuit breaker should be specified. Pull rope must always be kept clean and free from moisture.

The Gloves. All rescue apparatus should be equipped with approved lineman's rubber gloves, with long gauntlets, factory tested at ten thousand volts. Gloves should be air tested for leaks (blow up, twist end, and squeeze) after each use. Even the smallest of pin holes or breaks will permit current to enter the body. They should be dielectrically tested every three months by a qualified utility company. The ordinary useful life of rubber gloves is about three years, if properly cared for; but if they lose their "life" or resiliency before that time, they should be replaced. Leather gloves should be provided and worn over the rubber gloves to protect the rubber from wear and punctures.

The Minor Demolition Group

The minor demolition group (refer back to "Demolition") as well as rope, includes block and tackle, fire-axe, 12 pound sledge hammer, five foot pinch bar, three foot wrecking bar, combina-

The short handled pike pole for retrieving in inaccessible places. Rope ring on butt end increases value.

tion door opener when considered important, 24-inch bolt cutters, metal cutter or panel chisel, 18-inch pipe wrench, metal becket hook with short cable for tying on to hot stuff, hard wood wedges (large), and:

The Hydraulic Jacks. There may be times during rescue operations when the only possible way to remove weight or wreckage from pinned victims is by the use of jacks. All rescue apparatus should be equipped with not less than two hydraulic jacks of at least twelve ton capacity. There should also be at least two jack blocks made of laminated hard wood (12" X 12" X 3") and strong enough to withstand the lifting power of the jacks. They may be necessary to supply footing in soft spots, to use as bearing between metal and metal to prevent dangerous slips, and to hold the gain when jacks have been fully extended.

Many types of hydraulic jack will work in a vertical position but not in a horizontal position. The reason for this is that, when the jack is in a horizontal position, the fluid does not get into the pump properly. When it is necessary to use jacks to remove pinned or trapped victims, there may be as much need for horizontal thrust as for vertical thrust. Officers in charge of rescue apparatus should check their hydraulic jacks. If they are of the type that will not function properly in a horizontal position, then mechanical jacks, preferably of the jack-screw type, should also be supplied. At least one jack should be supplied that will collapse to less inches than the width of a child's head. It is not uncommon for the Fire Service to be called when children, out of curiosity, thrust their heads into places from which they cannot extricate them. Sometimes a little motor oil smeared on the head will permit them to be freed quickly. It is not advisable to carry railroad jacks on minor apparatus, but the availability of such jacks should be insured for such incidents as railroad and street car accidents.

The Cave-In Group

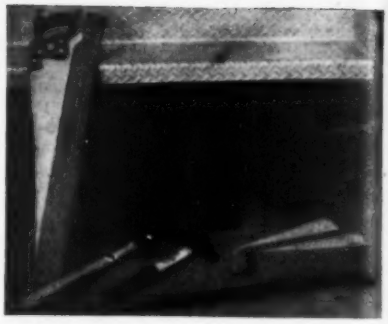
The cave-in group, as well as rope, block and tackle, snatch block, rope straps, snap-on harness and Pompier belt includes; a long handle round point shovel, a short handle round point shovel for excavating in tight places, a mule bucket for hoisting dirt, tools of the shoring group which include the handsaw, the jacks and jack blocks, wedges, wrecking bar, blacksmiths hammer and straight claw hammer, and:

The Portable Hand Lamp. A portable electric hand lamp is indispensable in most night rescue work. No person can work efficiently in the dark. The lamp may be of the dry cell or rechargeable battery type. This lamp should have a long range beam for such activities as throwing light down into wells or excavations and for detecting high voltage signs on high poles and towers and for seeing long distances in mountain rescue.

The straight claw hammer provides probably the quickest means of forcible entry into light frame structures. The blacksmith's hammer is handy for driving wedges in tight places, for bucking up, and for use with the gad or cold chisel.

The Rope Template. It is important that rescue personnel should use as much care in coiling rope as a flyer would use in packing his parachute. A life may depend on the quickness and ease with which the rope is uncoiled. Rope should always be coiled on a template in such a manner that a single loop is left out for a shoulder sling on the hand line and a double loop is left out for a back pack on the life line; the loops should be arranged in such a manner that the end of the line will render from the center of the coil without fouling. Rope should be tested periodically for wear, age and weakened or frayed strands and cuts.

Top: Minor demolition group. Bottom: Cave-in group.



Minor shoring group. Note tooth guard on saw. Template for coiling life line and hand line.

Hand line pegs, 24-inch O.D.; Life line pegs, 30-inch O.D.

TEAM WORK SIGNALS

Code	Tugs	Meaning
O	1	O. K.
A	2	Advance
T	3	Take up
H	4	Help

FACTS ABOUT NEW MANILA ROPE

Diam. in Inches	No. Ft. Per Lb.	Breaking Strain, Lbs.	Safe Load, Lbs.
¼	55	620	120
½	13	2,400	530
⅝	7½	4,000	880
¾	6'1"	4,700	1,080

1952 Fire Loss $3,046,438.65 in Atlantic City

The Atlantic City, N. J., Fire Department, Fire Chief Zenus Mathis, responded to 781 alarms in 1952, of which 81 were false. Building fires amounted to 367 of which, as might be expected in that resort city, living quarters and hotels led. One pumper was destroyed by fire. The heavy fire loss was largely due to one major fire, on Jan. 7, 1952.

Acetylene Gas Fires Pose Problems For Fire Service

Rupture of Cylinders upon Exposure to Heat Creates Severe Life Hazard; Some Recommendations

By PAUL C. DITZEL

IT is axiomatic in the fire service that the most difficult fires to fight often are those which occur infrequently. Modern manufacturing methods create problems for the fire service which were unheard of in the days of horse-drawn equipment.

Although fires from acetylene gas are infrequent, the hazard is present even for the smallest fire departments. Acetylene outfits are found in some of the most highly flammable occupancies.

The acetylene industry has been working closely with the fire service for 40 years in a campaign to reduce fires from acetylene causes.

The Los Angeles Fire Department recently was confronted with an incident involving a series of blasts among cylinders in a charging rack at a plant of the Linde Aircraft Products Co. The blasts touched off a major fire, which Headquarter Assistant Fire Chief Earl Richardson of the Los Angeles Fire Department described as similar to a petroleum fire.

Chief Richardson said the early morning blasts and fire ignited acetylene gas and burned it in such quantities as to give off an intense heat. Flames "rolled and billowed" in a "high fire similar to that of a petroleum blaze," said Chief Richardson.

An intensive study of the blast and fire by Captain Charles W. Bahme, formerly of the Dangerous Chemicals Detail, Los Angeles Fire Department, holds much interest for the fire service as a whole. Captain Bahme's study of acetylene and other chemicals has won him a national reputation as an expert in his field.

About 600 cylinders had been placed in a charging rack at the Linde plant and most of them were nearly completely charged. Then, shortly after 4 a.m., Dec, 4, 1952, one of two employees on duty at the plant noticed a flame burning, presumably from a fusible plug on the bottom of one of the cylinders on the charging line.

The employee immediately shut down the generators, compressors, and the manifold valves and asked his fellow employee to turn in the fire alarm. He then noticed the fire apparently had spread to other cylinders because a blast occurred shortly thereafter. The sharp explosion ruptured the supply line from the compressors in several places and blew off the heads from some of the compressors.

The Westlake alarm office of the Los Angeles Fire Department received a telephoned alarm at 4:20 a.m., and dispatched three engines, a hook and ladder and Acting Second Battalion Chief Vernon Mitchell. Seven minutes later Chief Mitchell radioed for a full second alarm.

The second alarm called out three more engines, two truck companies, a salvage rig and Chief Richardson. Officers of the Fire Prevention Bureau and the Training Division also responded. Westlake moved five engines and one truck company to other quarters in areas left without fire protection.

The fire site was in the City Terrace area of the city and, as usual, the well-planned mutual aid system worked out with the Los Angeles County Fire Department went into operation automatically.

The County Fire Department received several telephoned alarms of fire at 4:30 a.m. County Engine 32 was quartered approximately three-quarters of a mile away from the fire scene and as it left quarters, Captain E. J. McClure radioed, "It's in the air! And Big! Send plenty of help." County fire dispatchers sent five engines, a truck, a rescue squad and Assistant Chief John Duncan in charge of the First Division. Acting Third Battalion Chief William Sherrill also was rolling to the fire.

County Fire Dispatchers also moved up five engine companies into vacated fire stations.

The initial blast at the Linde plant quickly involved all 600 cylinders in the charging rack. The explosions did not subside until well after the first 15 minutes of the fire.

The charging rack was located in a galvanized steel on steel frame building, 80 by 100 feet. The building was open on two sides. The explosion completely demolished the entire structure. By the time Chief Richardson arrived, fire had communicated to a nearby galvanized steel on wood frame building, 50 by 100 feet, which contained an office on the north end.

A study by Captain Bahme says the fire service, when called upon to fight a fire in a building where a large number of acetylene cylinders are involved, such as a cylinder loading rack, should not attempt to get close enough to actually put out the blazing acetylene jets.

Captain Bahme explains that under such circumstances, "there are likely to be impinging jets of flame of one cylinder upon another, causing them to rupture and fly off in unpredictable directions." He suggests the best initial job is to protect exposures and to knock down any communicating fire.

Chief Richardson's report on the fire shows the initial operations were made difficult because of the lack of adjacent fire hydrants. The closest hydrant for a conventional lay was about 1,000 feet from the fire.

"Considerable difficulty was encountered and an excessive amount of time was used in getting lines into the fire, due to the lack of and excessive spacing of hydrants," Chief Richardson's report states.

No Fire Department hose lines were in operation when he arrived in response to the second alarm, Chief Richardson

Overall view of the building containing charging line where 600 cylinders were being charged at Linde plant in Los Angeles. Note how series of explosions littered nearby roof (upper left) with debris.

told FIRE ENGINEERING's representative.

However, delay in getting water from public hydrants did not contribute to the fire loss. The fire caused in the adjacent warehouse by communcation was controlled by using a private yard hydrant.

Los Angeles City Firemen laid five 2½-inch lines and two 1½-inch lines, while the County Firemen laid three 2½-inch lines. Tips used were mostly 1- and ⅛-inch.

Chief Richardson said hydrants on Valley Blvd., nearby, could be reached only by hand lays through a trucking company yard and over two mainline railroad tracks and then over a six-foot high chain link fence with barbed wire at the top. Two hand lays were of 800 and 900 feet.

Chief Richardson's report showed three hydrants were used. Pressures were good, and satisfactory working streams obtained.

Engine 70's pump was located at a Marianna Avenue hydrant and worked in an 800 foot relay with Engine 25.

The original fire burned for 45 minutes before it was knocked down. The fire in the other building was controlled within five or 10 minutes, Chief Richardson said.

The explosion ruptured an alcohol line and firemen had some difficulty in controlling the break but were able to find a shutoff valve.

Many of the acetylene cylinders were ruptured and the first arriving companies were endangered by cylinders which hurtled through the air after they exploded. Upon application of water on the cylinders, the explosions ceased, said Captain Bahme's report to Deputy Chief Frank H. Rothermel.

Captain Bahme's report said acetylene cylinders are charged by supplying the acetylene gas from a gas holder to compressors. There the gas is raised to several hundred pounds pressure, per square inch, and delivered through pipes to the charging rack, where it is absorbed by the acetone contained within the filler inside the cylinder.

L. A. Fire Department Photo

Closeup of charging line manifold after the blast and fire which caused heavy damage to an acetylene plant at the Linde Aircraft Products Co. in Los Angeles, Cal.

The explosion probably was caused by the heat of the acetylene burning around the base of the original cylinder, causing the pressure to rise within the cylinder. The pressure rise resulted in disassociation of the gas. With additional heat and pressure, such disassociation can become a detonation which can affect the entire system simultaneously, Bahme's report noted.

The charging rack was of metal construction but was not protected by an automatic sprinkler system. Sprinklers in such occupancies are a retroactive requirement of the Los Angeles Fire Department's Dangerous Chemicals Code.

The company was about to carry out a sprinkler installation project.

Captain Bahme's conclusions are of especial interest to members of the fire service who some day may be called up to fight a fire such as the one which Los Angeles city and county firemen tackled:

"It is believed that where large quantities of water are immediately applied to a fire involving an acetylene cylinder, explosive decomposition will not occur even though the disassociation may spread throughout the entire length of the cylinder over a period of hours.

"However, the provision of an automatic deluge system for such charging racks is not considered an absolute assurance that no explosion could occur. There are several unknown factors involved in such explosions, such as how the acetylene leaking from the cylinders became ignited in an area where there was apparently no source of ignition;

"And, why the disassociation proceeded to the stage of explosion, notwithstanding the provision of flash-back arrestors, explosion-relieving devices and the utilization of pipe supposedly designed to withstand the maximum explosion pressures which could possibly be created within them.

"Therefore, in addition to a deluge system, it is considered good practice to require such an installation to be adequately separated from highways and places of habitation by barrier or distance.

"Moreover, additional studies are being made with the view of improving the design of explosion relieving devices and the installation of baffles between cylinders on charging racks," said Captain Bahme's report.

Following is the log of alarms:

4:20 a.m.—Telephone alarm of fire for fire at 4671 Worth St., Los Angeles. Westlake office of Los Angeles City Fire Department dispatched Engines 47, 70, 1; Truck 1; Battalion 2.

4:27 a.m.—Second alarm order by Chief Mitchell. Engines 2, 4, 25; Truck 2; Salvage 24. Headquarters Assistant Fire Chief Earl Richardson. Fire Prevention Bureau and Training Division officers.

4:30 a.m.—Los Angeles County Fire Department received several telephone calls of the fire. Dispatched Engine 31.

(*Continued on page 437*)

L. A. Fire Department Photo

The morning after. Twisted acetylene tanks litter yard after explosion and fire leveled this corrugated iron building at a Los Angeles acetylene gas works.

Anchorage Auditorium Burns

The Anchorage, Alaska High School Auditorium was destroyed by fire on the night of March 24, last, with loss of $200,000. Some 100 volunteer and regular firemen from all local and area fire departments prevented blaze from extending to the adjoining High School after a tough two-hour fight.

The cause of the fire, which broke out shortly before 8:00 P.M., was spontaneous ignition, according to Fire Chief George Burns, who said combustible materials were stored in the northeast wing near the stage where the fire originated.

The fire department was notified of the fire at 7:57 P.M. by a volunteer fireman who was passing the school and saw smoke. The entire force of one ladder unit, two pumpers and a hose truck, responded promptly to find the auditorium interior "a roaring inferno" upon their arrival.

Chief Burns called for aid from the Alaska Railroad and Elmendorf Air Base upon his arrival at the scene. Both agencies sent 750 GPM pumpers, one Elmendorf unit being located at fire headquarters on stand-by duty. Volunteers from Spenard also sped to the fire in private vehicles; their apparatus was not needed.

Originating at the stage level, the fire raced up the east wall of the three-story-high structure and broke through the skylight over the stage, as pent up gases blew out. The curbed walls, with open spaces between the partitions, allowed the blaze to get well under way before discovery, Chief Burns said.

A fire team from Elmendorf worked from the roof of the storage section behind the stage. City firemen covered the west side of the entire length of the building. Chief Burns assigned a team of men with hose lines to the third floor of the adjoining High School to prevent extension of the blaze to that structure. Although it was scorched, firemen prevented its involvement.

The men had the fire under control within two hours, but the last fire fighter was not relieved from duty until 7:30 A.M. the 25th.

Thanks, CHAPLAIN NORRIS T. MORTON.

Fire Fighters Net a Would-Be Suicide

On January 23, 1953, at 9:15 A.M., Private E. Siebels, Acting Captain of Ladder 8, St. Louis Fire Department in the absence of the Company Captain, was notified via department telephone to proceed with his company, without benefit of siren, to the Warwick Hotel, 1428 Locust street, and report to Deputy Fire Chief J. Sauerwein.

The Chief was at the scene to effect the rescue of one Elmer E. Vail, 50, white, height 5 ft. 10 in., weight 170 lbs., who had barricaded himself in his room on the sixth floor of the Hotel, resisting efforts of Police officers to pacify and calm him to a point where they could get to him before he could commit some violent act upon himself, in his rage and excitement.

Chief Sauerwein, on the Locust street side of the Hotel, had ordered Siebels to direct his men to head the ladder truck on an angle into the parking lot on the east side of the Hotel to effect a raise with their aerial to the sixth floor window where Vail had barricaded himself.

The crew of the company, after first laying their life net on the ground directly under the window of Vail's room (which is the custom in the St. Louis Fire Department in any type of rescue), proceeded to operate their ladder to make the raise, one man standing by equipped with life-belt ready to attempt the rescue.

Vail, looking from the window, evidently anticipating the efforts of the crew, commenced throwing various objects, such as table lamps, floor lamps, drawers, etc., through the window, with resultant danger to the firemen and delaying their efforts. Sensing he couldn't stop them, he then climbed out of the window and hung from the sill, threatening to let go at any minute.

Realizing that to attempt the ladder raise under the conditions would be impossible, Chief Sauerwein abandoned the idea and ordered the men to man the life net. In order to reinforce the Company's crew, of six men, the Chief, his driver, Special Police Officer Edwin Roth, and newspaper reported Ed James, all took hold of the net to assist.

They had just about gotten into position when Vail let go of the window sill and fell. His body turned in the air, necessitating a quick shift of net about two feet to the east. Two of the holders were knocked to their knees by the concussion but not injured. Vail, still conscious and suffering a bad back injury, continued to resist. After some struggle he was subdued, handcuffed and taken to City Hospital.

The remarkable thing about the rescue was that, operating under the handicaps which they faced, none of the men who took part in the operation was hurt, nor was the net.

As Vail turned in his fall, Staff Photographer Linck of the St. Louis Globe Dispatch, who had his camera ready for action, took the accompanying dramatic photograph. This shows the stalwart crew braced for the shock.

The editors are indebted to Captain Thomas Godfrey, St. Louis Training School, for the facts and picture.

Precocious Youth

Add this to the Arson record.

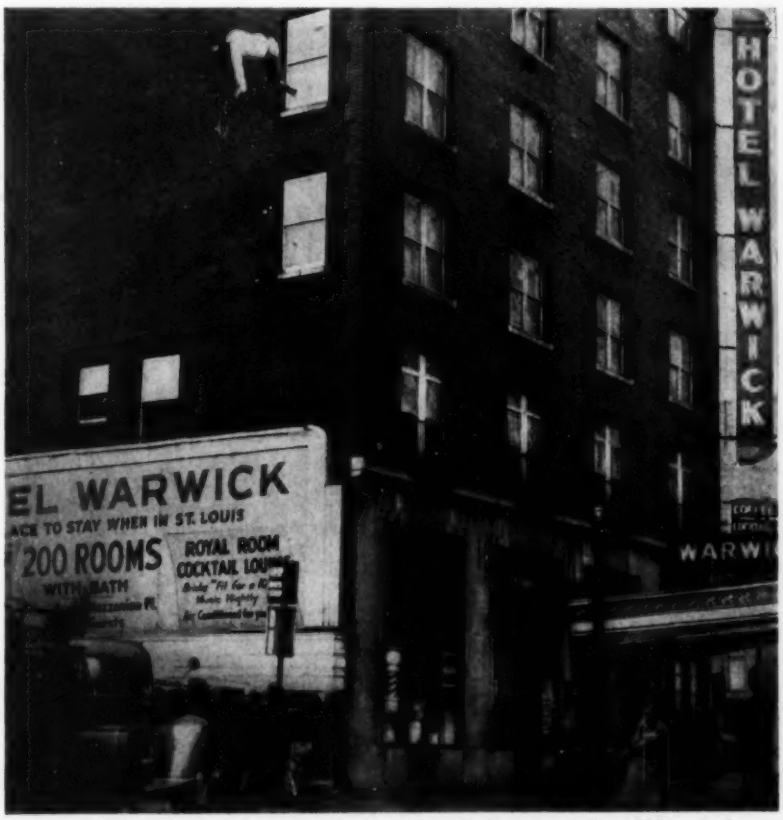
The mystery of a series of fires in the Avondale Park Section of Charlotte, N. C., was solved in March, when a youth of 11 years of age admitted setting them.

The youngster (whose name is omitted in keeping with the apparent general trend of the times to 'conceal' perpetrators of such crimes), was turned over to the Juvenile Authorities of the city, according to Detective Neal Fornay, whose investigation located the culprit.

The fires, two in homes, one in a garage and one in a business establishment, were fortunately discovered before serious damage was done.

Neighbors directed police to look for the youth. When apprehended and questioned, the youngster advanced the old excuse that he wanted a little excitement and liked to see fire fighters turn out and the engines speeding to the "danger" spots.

D. G. SPENCER



St. Louis firemen hold life net in position and await the impact of would-be suicide.

Butane Blast Threatens San Francisco's Chinatown

A 4-alarm fire in San Francisco's Chinatown, which injured ten persons and created near panic in the crowded area, was no "April Fool" affair, even if it came on April 1.

The fire was preceded by a blast, caused by leaking butane gas, illegally stored in a three-story brick building at the southeast corner of Waverley Place and Washington street; the landmark was occupied by a basement plumbing shop and restaurant, a cocktail lounge, on the first floor; dentists' suites, a Chinese business and professional club on the second floor; and apartments on the third floor.

The blast, marked by intense heat and shock wave, littered the street with rubble, smashed windows 100 yards up and down Washington street, blew an unidentified pedestrian across the street, and seriously injured several other persons. A section of glass sidewalk was deposited on a third-floor fire escape balcony across the street.

The proprietor of the plumbing shop told authorities he and a helper were emptying a 30-gallon butane tank into a 2½-gallon tank preparatory to going out on a job when the valve on the big tank "froze" and could not be shut off. Fumes immediately began to fill the place and both men ran to the street to warn people. They had hardly reached the outside when the blast came, the butane igniting from some unknown cause. Both men were cut and singed, and suffered from shock. A Chinese living on the third floor was trapped by the ensuing fire and carried out of the structure, unconscious, by firemen.

The roaring smoky fire which followed threatened the entire Chinatown area and three additional alarms were sounded in rapid succession, bringing 30 pieces of fire equipment and 125 firemen into action.

The first alarm was received by the fire department at 9:58 A.M. and, when the first-due companies arrived, flames were scorching autos parked in the street and igniting two telephone poles.

Streams from hand lines, deck-pipes, a tower, and ladders were soon beating back the flames as firemen swarmed over the building, checking on the upper offices and apartments to make certain all were out. At least five firemen were injured in these operations.

It was reported by Fire Marshal Kelly that the butane gas was stored illegally in the plumbing shop. A year previously a fire department inspector had found butane stored in the basement, and three days later the department had been notified it had been removed.

Damage was estimated by Deputy Fire Chief A. J. Galli at $50,000; the owner had recently offered the landmark for sale at $75,000.

Volunteers Urge State to Build Water Holes

"What is a Fire Department without water?"

This was the question recently posed to a legislative committee at the State Capitol, Hartford, Conn.

Spokesmen for the Connecticut State Firemen's Association told the General Assembly's Public Health and Safety Committee that many small Connecticut communities have good volunteer fire departments with well-trained men.

But their skill is often lost, they said, because they must fight without one of their chief weapons—water.

The State Firemen's Association proposed that the State appropriate $30,000 annually for five years to help municipalities build water pools in sparsely settled areas. Each pool would have at least 3,000 gallons of water at all times.

Aside from protecting homes, the legislative committee was told, the pools would be handy should a fire break out in an auto or truck on a lonely stretch of road. Fire Chief J. Franklin Dunn, of Middletown said, that his department dashed to a fire in Cromwell recently to help fight a church fire. The church was destroyed. The reason? "No water," said Chief Dunn.

John H. Moehring, of Stamford, Secretary of the State Firemen's Association, told the committee that his association knows of at least 7,000 homes valued at $60,000,000 in 31 towns which would benefit by the water pools.

TOM MAGNER

Phone Change-Over Blamed for Fire Delay

A week-end change-over in the Alderwood, Ontario, telephone exchanges has been blamed for a 14-minute delay in handling an alarm of fire, with the result that two houses were partially burned, entailing loss of $17,000. The fire also burned out a telephone cable, leaving 200 homes in the area without telephone service.

Fire Chief Fred Mitchell of the Etobicoke Fire Department, which is in the western suburbs of Toronto, stated that the police notified him at 4 A.M. to report a fire in Alderwood. The Chief immediately called the Alderwood and Islington fire units. The latter's alarm sounded but that of Alderwood did not. The Chief explained that these alarms are automatically set off when he dials the new telephone number, Belmont 1-3311.

Failing in alerting the Alderwood force, the Chief sped three miles to that town's fire station to sound the alarm manually. But the delay in the meanwhile permitted the fire to gain considerable headway. The cause of the fire was attributed to a space heater.

Thanks JOHN KARL LEE

Left: View of multiple alarm blaze as firemen get to work shortly after illegally stored butane gas exploded in a Chinatown basement plumbing shop, injuring twelve persons. Five firemen were hurt. Note debris blown to street by blast. Right: As fire was brought under control.

Dramatic Ladder Rescue Marks Strand Hotel Fire

Four persons, three women and a man, were dramatically rescued from a narrow ledge, 90 feet above the sidewalk, and several firemen were injured, one seriously, as a wind-driven fire swept through the central section of the T-shaped 7- and 9-story Strand Hotel on Atlantic City's famous Boardwalk, at Pennsylvania Ave., on March 30th, 1953.

The quartet had been trapped on the Boardwalk end of the ninth floor ledge of the newer addition of the building, when smoke and flames prevented them from reaching an inside fire stairs only about 10 feet from the fire tower door. The three women were Mrs. Esther Schoenthal, 64, permanent guest; Mrs. Tillie Cooper, 59, a guest, and Mrs. Katherine Kilcullen, 60, a maid at the hotel. The man was Mrs. Cooper's husband, Abe, 64. They spent an anxious hour buffeted by heavy smoke and a 40-50-mile wind, while firemen and volunteers endeavored to reach them from inside the structure, and from ladders.

The rescue was finally effected by a ladder company under Captain Edward Jordan, using a 100-foot aerial. Other aerial ladders falling short, the 100-footer was finally brought into position. On first attempts with the raise from the center of the street, the ladder, fully extended, just failed to reach the ledge. The crew then retracted the ladder, drove the truck up onto the sidewalk, from which point it reached the four victims. The three women were all taken safely down. Meanwhile other firemen reached the roof through the fire tower and lowered an aluminum ladder to the male victim, who climbed the remaining story to the roof.

The most seriously injured among the firemen casualties was Joseph Loughney who received severe burns and a crushed arm when he fell two floors inside the building.

The Strand Hotel was built in 1901, with additions made in 1910 and 1915.

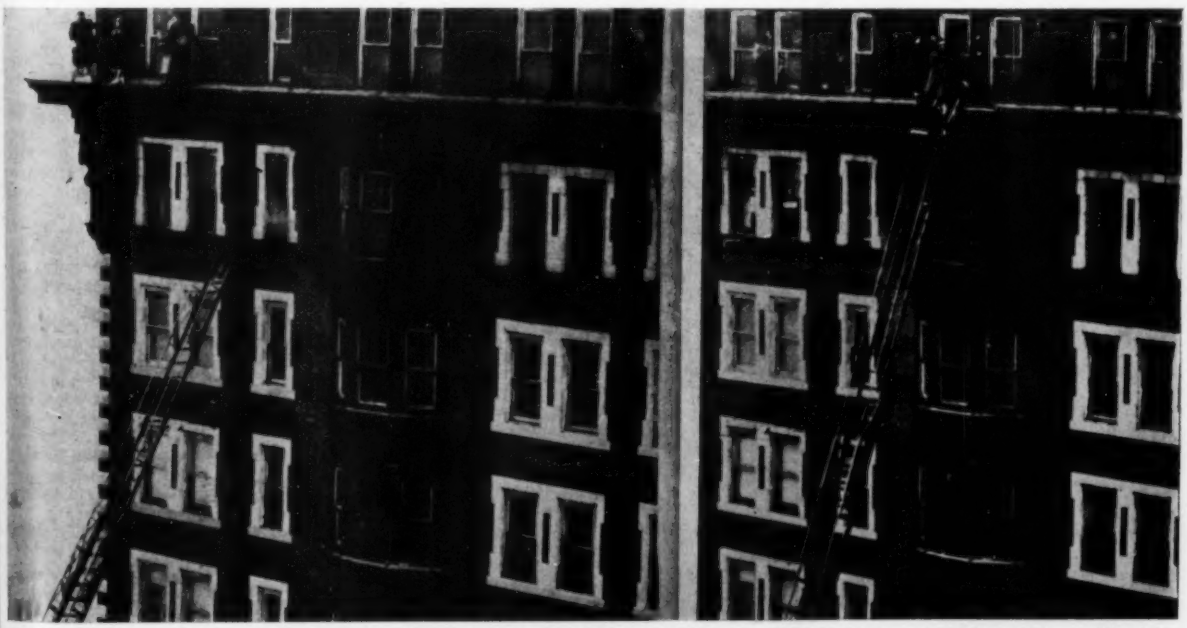
Fire involves central section of big Atlantic City hotel. Fire ate its way down as well as up to ruin interior of old section of the Strand Hotel on March 30, 1953. Firemen are attacking blaze, not shown, that has involved lower as well as upper floors.

Its value was reported at $750,000; firemen, however, estimate the replacement cost of the burned center section to be $1 million.

There were 30 guests in the hotel at the time of the fire but all of its 270 rooms were booked for the Jewish Holidays to begin the evening of the blaze.

The brick and steel building is separated from the large Haddon Hall Hotel by only a 20-foot alley. On its other side is the smaller Seaside Hotel. Haddon Hall is equipped with an outside water curtain, which was turned on from the 10th to 7th floors, effectively preventing extension of the fire to that hostelry. Firemen watched the other exposures and covered them with water.

(*Continued on page* 439)



First efforts to remove four persons trapped on ledge of Strand Hotel 90 feet above ground (left) failed, until 100-ft. aerial was shifted to sidewalk, where extra footage was just enough to reach ledge as shown in photo at right.

News of the Manufacturers

M.S.A. Elects J. T. Ryan President

Election of J. T. Ryan, Jr., as president of Mine Safety Appliances Company, Pittsburgh, Pa., was announced on April 20. Mr. Ryan succeeds George H. Deike, Sr., who was named to the post of chairman of the board.

J. T. Ryan, Jr.

Mr. Ryan is the son of the man who, with Mr. Deike, founded the concern in 1914. He was graduated from Pennsylvania State College in 1934 and received an M. B. A. degree at Harvard. He began his business career as a sales engineer with the company in 1936. In 1948 he was elected to the board of directors and named executive vice president.

He is president of the Callery Chemical Company, a subsidiary of Mine Safety Appliances Company, engaged in research and production of highly specialized chemical substances. He also is a director of MSA subsidiaries in Canada,, Scotland and South Africa, and of Thomas A. Edison, Inc., Townsend Company, Ruud Manufacturing Co. and Thorofare Markets, Inc.

Active in civic affairs in the Pittsburgh area, Mr. Ryan is president of the Pittsburgh Hospital and director of the Tristate Industrial Association. Mercy Hospital, the Pittsburgh Symphony Society and vice-president of the Metropolitan Pittsburgh Educational Television Station.

Pirsch 75-foot intermediate aerial ladder truck recently delivered to the City of Bradenton, Fla. In the photograph are members of the Bradenton Fire Department, Fire Chief Harris, and Mayor Sterling Hall shaking hands with Peter Pirsch, President of Peter Pirsch & Sons.

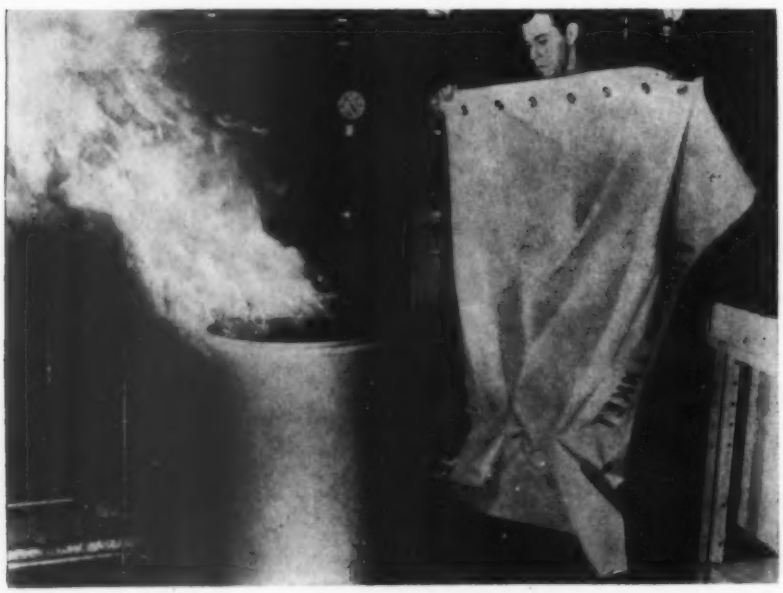
Plastic Protective Blanket

A new type vinyl plastic coated glass cloth fire blanket called "Stasafe" which provides protection against fire for both human life and small industrial equipment has been introduced by Standard Safety Equipment Company, Chicago, Ill. The new, rugged protective blanket may be thrown over a person or machine enveloped in flames to effectively cut off the oxygen and quickly smother the fire. The blanket can also be used as a first aid measure in smothering fires at vents, manholes, barrels, buckets and other containers, or used as a welding screen, to cover fire trenches, or any likely spot where a fire might break out.

Hung wherever possible need is greatest, indoors or out, the Stasafe All Weather Fire Blanket needs no covering to protect it from the elements. The strong glass cloth is given added strength, durability, and weather protection by coating it with a plastic compound made from one of B. F. Goodrich Chemical Company's Geon vinyl resins. The vinyl plastic provides resistance to acids, alkalies, most solvents, and other chemicals, stays flexible to below zero Fahrenheit temperatures and reportedly will not support combustion. It gives a surface which is easily kept clean merely by flushing with water or wiping with a damp cloth.

The fire blanket weighs only 2½ pounds, is 76 inches by 60 inches in area. It is colored light grey and has "Fire Blanket" printed on it in bright red for easy identification.

The Stasafe blanket will withstand long periods of exposure without any fire retardant washing out.



New plastic coated fire blanket.

"Firelarm" to Cut Fire Losses

Deluxe "Firelarm" is a thermostatically controlled fire alarm which operates on any 110 A.C. circuit and which can be easily, inexpensively installed near any fire hazard. It remains on duty 24 hours a day, to sound a loud, penetrating alarm in the event of temperature rise beyond safe limits.

The reasonable price of "Firelarm" units encourages multiple installations not only in places of public assembly, but in mercantile, industrial and habitational occupancies.

"Firelarm" is distributed by R. J. Schuler Associates, 17539 Warren Ave., Detroit 24, Mich.

Ansul Announces Fire Schools

Nine different fire training school classes, each lasting three days, have been scheduled by the Ansul Chemical Company on the company test field at Marinette, Wis., this spring and summer.

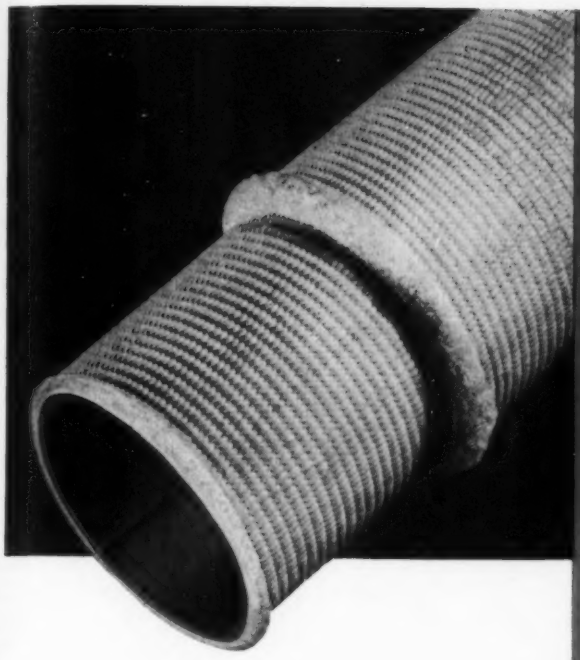
This is the tenth year that the school has been held. With enrollment for each class limited to 25 persons, attendance this year will reach about 225, a new record.

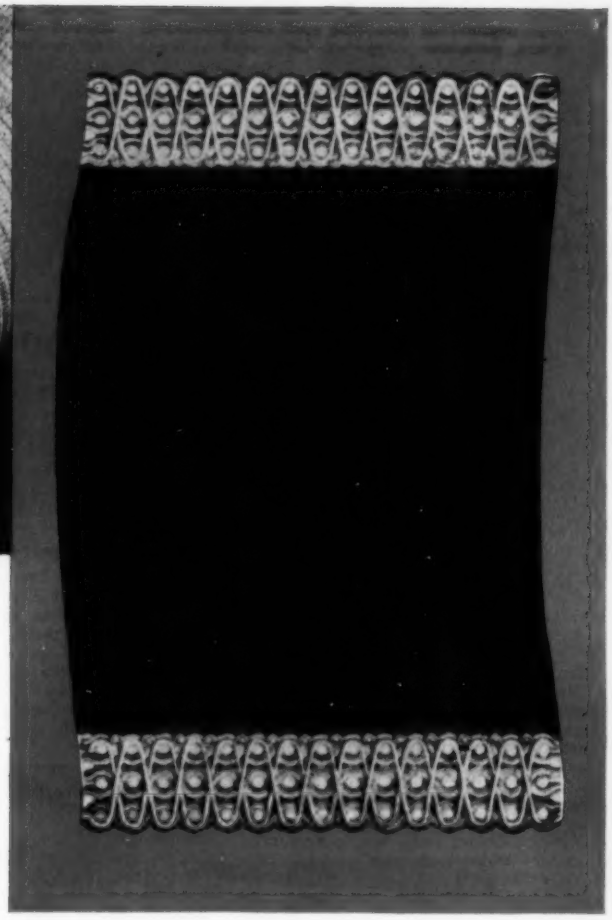
Ansul's fire school draws its students from the fire and safety engineers of industry, from municipal fire departments and from the military services.

This year, the first class, scheduled for May 25-27, is being restricted to persons attending the National Fire Protection Association meeting in Chicago. However, enrollment for all other classes is open on a "first come, first served" basis.

Dates for the classes are May 25-27 (NFPA), June 8-10, June 15-17, June 29-July-1, July 27-29, August 17-19, August 24-26, September 14-16, September 21-23.

The school is conducted on the company's eight-acre fire test field. The field has facilities for simulating almost





Multiple-Woven
or
Multiple-Jacket

—do *you* know the all-important difference?

EXAMINE a cross-cut section of any ordinary multiple-jacket fire hose. Note that each ply consists of a separate, loose jacket that can be rolled back on, or slid off, the next inner ply, as illustrated.

Now look closely at a length-wise cut of Eureka *Multiple-Woven* Hose, shown in the illustration at the right. Notice how *all* the plies have been circular-woven and bound together into a *single seamless, homogeneous unit*—in *one* operation of the loom!

Unlike loose-jacketed hose, there's no room between plies for mildew to form . . . or for water to collect and freeze. Furthermore, all cords in the fabric of Eureka Multiple-Woven Hose are woven under uniform tension and controlled humidity. All this makes for a stronger, safer, longer-lasting hose . . . eliminates dangerous writhing or serpentining of the hose under pressure.

Only Eureka makes *multiple-woven* hose! For Eureka developed and produced the unique and complicated looms on which it is made—looms which have never been duplicated! So, for maximum safety and long-range economy, be sure to specify Eureka *Multiple-Woven* Fire Hose . . . available in 2-, 3- or 4-ply.

EUREKA

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street • New York 13, N. Y.

Division of United States Rubber Company

every type of fire to be found in industry, including gasoline spill and pressure fires, propane pressure fires, and others.

L. E. Lowry Now Consultant

L. E. Lowry retired May 1 from the Gamewell Company, after 55 years of service, to take up consultation work in connection with municipal fire alarm and police alarm signaling systems. He will make his headquarters in Chicago but will retain his present address of 29 Bowdoin street, Newton Highlands 61, Mass.

L. E. Lowry

Mr. Lowry joined Gamewell in 1898, in New York, and served all departments in the company. In 1913, as assistant to the general manager, he was transferred to Newton Upper Falls to become works manager. In 1918 he was appointed district manager of Mid-West territory with headquarters in Chicago. After 20 years in that post he returned to Newton Upper Falls where he served as export and advertising manager until his retirement.

Mr. Lowry's broad experience and training ideally fits him to serve as consultant on all phases of fire alarm communications.

Navy Orders Mobile Ranger Pumpers

The U. S. Navy has announced the purchase of its first quantity order of small pumpers developed by Mobile Fire Apparatus, Inc., Indianapolis. The specially engineered truck, developed by Willys-Overland to meet the specifications of the U. S. Navy, provides the highly maneuverable vehicle on which the fire equipment is mounted.

The units are completely equipped, self-contained fire trucks, designed to combat all classes of fire. Open and closed cab units for structural fire fighting include front-mounted pumps, hose and ladder combination with 150-gallon tank capacity. Similar units for fighting brush and grass fires have 300-gallon tank capacity.

The four-wheel drive aids the unit in reaching a location regardless of terrain, roads or weather. The unit provides high pressure water fog upon arrival from its own tanks, while hose lines are being laid to the nearest source of water.

George Dickens, President of Mobile Fire Apparatus, Inc., says, "Here's a small but effective, highly maneuverable, low-cost fire fighting unit that will enable many industries and small municipalities to provide their own fire fighting equipment."

The Mobile fire fighter is equipped with an Underwriters-approved, 500-gallon, front mounted centrifugal pump. The executive offices of the firm are located at 960 North Pennsylvania Street, Indianapolis, Ind.

Dandux and Dandry Salvage Covers

C. R. Daniels, Inc., of Daniels, Md., manufacturers of Dandux and Dandry salvage covers, has just issued a pamphlet describing these covers and giving specifications of salvage covers. The pamphlet is illustrated in two colors, and includes a complete listing of the firm's branch offices. Copies of pamphlet are available from the company at the above address.

New Fire Hose Cleaner

Through the combined efforts of the laboratories of the Essential Chemicals Co., of Milwaukee, Wis., and Bi-Lateral Fire Hose Company, there has been developed a new, revolutionary fire hose cleaner, called "BI-KLEEN".

The cleaner reportedly will dissolve petroleum products that come in contact with cotton jackets and is said to effectively clean any dirt or foreign materials from the jackets.

The Essential Chemicals Company, which has engaged in development of specialized chemicals for over 55 years, recently received prominence in the fire fighting field through its product "PREV".

"BI-KLEEN" will be sold by distributors of Bi-Lateral Fire Hose Company.

Mobile Ranger fire engine undergoing fire extinguishing test.

Atlas Crash Axe

Increasing interest in the problem of aircraft crash fires and rescues, and the broadening knowledge that its unique crash axe is also handy to have in automobile fires and wrecks, as well as for normal fire fighting and overhaul operations are given for the increasing demand for this tool by its manufacturers, Atlas Safety Equipment Co., Inc., 27 Warren Street, New York 7, N. Y.

It is a convenient tool for all fire chiefs' as well as emergency vehicles. It weighs but 2½ lbs. and measures 15¼ inches overall length. It is made of one piece forged steel, with sharp cutting edge and point. The handle is insulated to withstand 20,000 volts, permitting its use in cutting through live wires. It is furnished with leather crash axe sheath which can be slipped on a body belt if desired.

Fire Protection Reduces County Insurance Rates

Many residents of Mecklenburg County, N. C., will receive a reduction in their fire insurance premiums next year. Seven of the County's fire departments received credit from the North Carolina Fire Insurance Rating Bureau on March 17, ranging as high as 25 per cent, which will result in savings to residents of these districts of approximately $200,000. The seven are: No. 1, Wilkinson Blvd.; 2, Pinoca; 3, Long Creek; 4, Derita; 5, Newell; 6, Oakhurst and 7, Woodlawn. The awards are the culmination of three years' work to improve organized fire protection.

Departments in the Cornelius-Davidson, Mint Hill, Shuffletown, Hickory Grove and Huntersville areas should receive credit in the near future. All departments concerned are volunteer and equipment is bought by each district through subscription, or from funds received from barbecues, dinners, etc. The County gives each department $100 and two-way radio for each unit.

The Wilkinson Blvd. unit, organized in July, 1947, was the first department in the County. It was two years later before another district was organized and since that time seven have been completed, with more being formed.

Thanks, D. G. SPENCER

POWER!

For powerful protection against fire, recommend Kidde carbon dioxide extinguishers. Just the pull of a trigger releases a rolling fog of CO_2. The fire is smothered instantly.

Kidde

Walter Kidde & Company, Inc.
533 Main St., Belleville 9, N. J.

Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Four more eastern communities choose

FWD

UNION, N. J.

ODENTON, MD.

MARYLAND LINE VOLUNTEER FIRE CO.

PATERSON, N. J.

Choose the Added Protection of Extra Traction to protect your community

Throughout the nation, the trend is to FWD Fire Engines. In both rural and urban communities, crews know they can depend on four-wheel-drive traction to help save time on every run. FWD provides maximum safety for crews, equipment *and* other vehicles. FWD equipment and accessories also deliver extra action and dependability at the blaze.

Write for the new book—"FWD Fire Engines." It pictures and describes the types of FWD equipment selected by many typical progressive communities. Helps you select equipment for your specific needs.

THIS IS WHY YOU NEED FWD EXTRA-TRACTION

SAFER CONTROL IN TRAFFIC — Start faster. Positive control permits greater speed. Avoid accidents because 4-wheel-drive assures superior steering.

REACH OUT-OF-THE-WAY PLACES — Get through to water supply in hard-to-reach sections. Drive over terrain that stops the conventional fire truck.

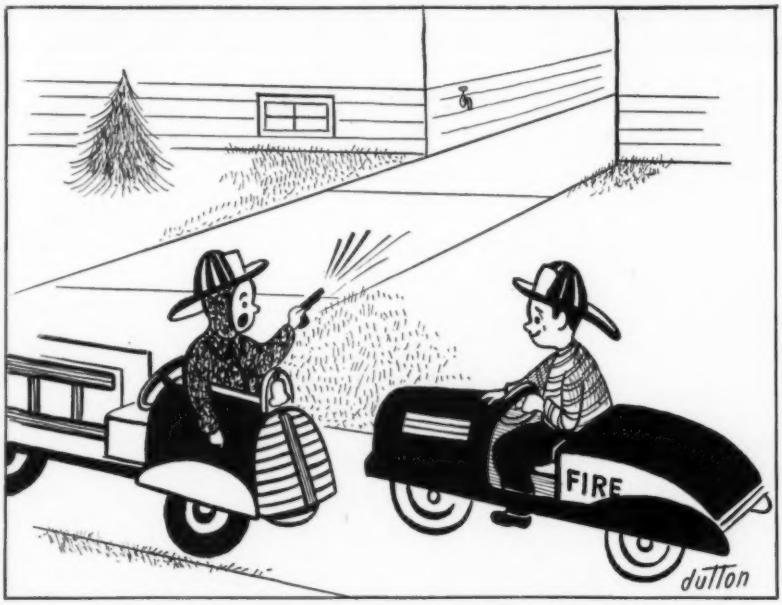
FULL CONTROL ON SNOW AND ICE — With front wheels pulling and back wheels pushing—drive swiftly, safely over icy or snow-blocked streets and roads.

STEEP GRADES, MUD, SAND NO OBSTACLE — Drive hub deep through sand or mud. Pull up steep, slippery grades without losing speed. Save valuable time.

Built by the Makers of America's Foremost Heavy-Duty Trucks

THE FOUR WHEEL DRIVE AUTO CO., CLINTONVILLE, WIS., *Canadian Factory:* KITCHENER, ONT.

FALSE ALARMS



"Guess we'll have to use our water pistols until we can borrow someone's hose!"

A pretty gal appeared at a party wearing a tiny silver airplane on a chain around her neck. It was a cute ornament and she was not only proud of it but quite conscious of it. She found her dinner partner eyeing her in the direction of the silver trinket and so she asked him proudly by way of starting small talk: "Do you like my little airplane?"

"Yes," replied the young gallant by her side, "but mainly I was admiring the landing field."

The club bore was boasting of his ability to distinguish between different beverages. Finally one of his listeners took a flask from his pocket and asked him to taste it and tell him what it was. The man tasted a mouthful and promptly spat it out. "Good heavens man!" he cried, "that's gasoline."

"I know," came the bland reply, "but what brand?"

Nonplussed

The father of twins was in a terrible predicament. He couldn't tell the babies apart. There wasn't any way to identify them. He couldn't cut their hair differently because they didn't have enough hair to cut. Their eyes were the same shade; their chubby noses the same; he was just out of luck. Finally he had an inspiration and had their names tatooed on their backs: "Daisy" and "Bill."

Tenant: "The people upstairs are very annoying. Last night they stomped and banged on the floor until after midnight."

Landlord: "Did they wake you?"

Tenant: "No, luckily I was up—playing my tuba."

Fair

"How much is the hotel bill?"

"It will be $75."

"$75!"

"Yes, $40 for room; $35 for food."

"Thirty-five dollars for food? We did not eat a meal here!"

"The meals were here. If you didn't eat them, that is your fault."

"Then I will charge you $35 for kissing my wife."

"But I didn't kiss your wife."

"That's O.K. She was here for you. If you didn't kiss her, that's your fault."

An inebriated man walked into an elevator shaft, fell four floors to the bottom, stood up, brushed himself off, and shouted, "I said UP!"

Foolhardy

A man waiting outside a supermarket noticed that a boy about eight in a car parked alongside his was wildly twisting the steering wheel and uttering motor-like sounds.

The man watched him for a while, then leaned over and said, "Hey, bud, you better stick your arm out when you go round a curve or you'll get a ticket."

The boy regarded the man scornfully. "Look, bub," he said, "you stick your arm out of a space ship and you'll have it ripped off."

CASHDOWN: "Want to buy a raffle ticket for a poor widow?"

HARDUPPE: "No, but if you have one on a rich widow I'll buy two."

A farmer wished to insure his barn and a few stacks.

"What facilities have you," asked the insurance man, "for extinguishing a fire in your village?"

The man pondered a little while. Finally he answered, "Well, sometimes it rains."

Women can keep a secret as well as men, but it generally takes more of them to do it.

"Let's give them a few more seconds while we check the extent of the fire!"

IN SIRENS IT'S NOT HORSEPOWER

...IT'S SOUND OUTPUT THAT COUNTS!

When buying your vital air raid sirens, don't be beguiled by big horsepower figures. This one fact can save your community money—*the supercharged Thunderbolt does with 10 h.p. or less what others fail to do with 40 h.p.*; it gives superior penetration and range. Only the Thunderbolt produces a full volume of sound at low as well as high pitch.

Why is low horsepower consumption per unit of sound output so desirable? First it is more easily adaptable to your existing power supply; that means lower installation costs. Also it permits wider selection of location . . . costs less to operate . . . cuts maintenance trouble and cost.

Over 200 cities boast that all or most of the units in their air raid systems are large and small FEDERAL sirens.

Let FEDERAL plan your better air raid system!

FEDERAL THUNDERBOLT directional beam SIREN...

FEDERAL ENTERPRISES, Inc.

formerly: Federal Electric Company, Inc.

8702 S. State St. • Chicago 19, Ill.

The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

SMOKING IN BED

THE discussion in this Round Table is a continuation of that which appeared in the April issue on smoking in bed.

The generous response from our readers makes it necessary to carry the discussion over to this issue and to next month's issue as well.

Readers are invited to send in their comments on this subject which is described in the box herewith. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

R. C. McRonald, Chief, London, Ont.: Thirteen fires were caused by smoking in bed in 1951 and 15 in 1952. No loss of life occurred in those two years, but one man was overcome with smoke and had to be revived by the inhalator. A few years ago we had an instance of a young lady firing the bed clothes from smoking in bed. She was overcome with fumes and smoke and before she could be rescued she was very badly burned about the lower portion of her body. This young girl spent many months in the hospital undergoing plastic surgery as a result of one careless moment, and very nearly lost her life.

In going through my records to find the above figures it was noted that approximately half of these fires happened in private homes and about half in hotels. It would be hard to find a law that would apply to smoking in bed in one's own home. I also noted that there were a great number of fires in upholstered furniture caused from cigarette butts. Would it not be much more satisfactory to have the manufacturers of these articles, i.e., couches, mattresses, chairs, etc., use a fire resistant material, or material that has been treated with a fire retardant chemical in upholstering and stuffing these articles, thus stopping the trouble at its source? No matter what laws are made, we are always going to have careless smokers, so if we can't remove the cause, we could concentrate on removing some of the results, namely, fireproofing our upholstered furniture, mattresses, etc.

Fred J. Wells, Chief, Fargo, N. D.: One life was lost due to smoking in bed, although we must admit drinking and drunkenness played a part in the cause of the fire.

Our records for the past year show the following mattress fires occurring in the City of Fargo: 1948, 72 fires; 1949, 33 fires; 1950, 18 fires; 1951, 25 fires; 1952, 16 fires.

Insofar as we can learn, Fargo was the fifth city in the nation to have an ordinance on the books dealing specifically with fires in hotels, lodging and rooming houses.

When our ordinance was first put on the books, it only covered hotels, lodging and rooming houses. In 1952, the ordinance was amended to read ". . . and other places of public abode." By so doing, it gives us coverage in apartments of all types.

The ordinance reads as follows:

"9-0717—Use of Cigars, Cigarettes, Pipes and Tobacco so as to Endanger Life or Property Forbidden

"Any person who by smoking or attempting to light or to smoke cigarettes, cigars, pipes or tobacco in any manner in which lighters or matches are employed who shall in any careless, negligent or reckless manner whatsoever, whether willfully or wantonly or not, set fire to any building, furniture, curtains, drapes, house or any household fittings or furnishings whatsoever so as to endanger life or property in any way or to any extent shall be guilty of violating this section and shall be subject to penalty as hereinafter set forth.

"A plainly written notice shall be posted in a conspicuous place in each sleeping room of all hotels, rooming houses, lodging houses and other places of public abode, advising tenants of the provision of this section.

"9-0601. Fires in Hotels, etc., To Be Reported.

"Every fire of any kind, and from

HERE IS THE QUESTION

1. **Have any lives been lost, or fires started, in your city in recent years as a result of smoking in bed? If so, how many cases are on record, particularly during the past two years.**
2. **Have you any city ordinance or state law designed to reduce this hazard?**
3. **If so, what are the provisions of such ordinance or law?**
4. **Has it proven effective in reduring the number of fires caused by smoking in bed?**
5. **What other measures do you feel would be helpful in checking this hazard?**

ITS JOB... SAVING LIVES!

Two-man rescue squad, of the Office of the County Engineer, patrolling the Mad River—Clark County, Ohio. Flat bottom "sea-and-land" boat is powered by a Johnson Sea-Horse 10.

JOHNSON SEA-HORSE 10
10 hp. With Gear Shift, Mile-Master Fuel Supply System, Synchro Twist-Grip Speed Control. A brilliant performer. Outstanding value in outboards... **$275.00**
Price f.o.b. factory, subject to change.

When the water of the Mad River rises to flood stage, this boat goes into action—*fast.* Human lives are often at stake!

The demands upon the Sea-Horse at the stern are heavy—quick starting, *every time*—power to travel fast against rushing waters—stamina to take a beating, a soaking, and long hours of full-throttle operation—utmost Dependability, *always!*

Johnson Sea-Horses are used by cities everywhere—in police work, by fire and conservation departments—for reservoir work, *and more.*

They're *economical*—to install, to operate, to service. They're *portable*—easy to carry, to stow, to transfer from boat to boat. They're *maneuverable*—with Sea-Horses you can run your boat, or beach it, anywhere. And they are DEPENDable!

See your Johnson Dealer. Look for his name under "Outboard Motors" in your classified phone book.

FREE! Write for new catalog which describes the 4 great Sea-Horses for '53—from 3 hp to 25 hp*—a motor for every outboard need.

*OBC Certified brake hp. at 4000 rpm.

JOHNSON MOTORS, 7000 PERSHING ROAD, WAUKEGAN, ILLINOIS
In Canada: Manufactured by Johnson Motors, Peterborough

Johnson
SEA-HORSES FOR DEPENDABILITY

New Recruits

. . . deserve the finest Badges too —

Just like the veteran of your department, the new recruit is equally proud of his badge. That's why more and more departments are starting the men out with the finest badges. Be sure you ask your equipment supplier to show you Blackinton Badges the next time he calls.

Dealers Why should you promote and sell Blackinton Badges?

Because **— (1)** Blackinton sells only through authorized dealers — we protect and encourage your sales effort — we do not contact departments direct.

(2) *Lower* selling price with *higher* dealer discounts to you.

BLACKINTON

V. H. Blackinton & Co., Inc. Attleboro Falls, Massachusetts

whatever source, occurring in or about any hotel, rooming house, lodging house or apartment hotel in the City of Fargo, shall be reported immediately to the Fire Department."

We think the five-year record as shown proves that the number of fires caused by smoking in bed can be reduced. Insofar as we are concerned, we feel our ordinance has paid good dividends. When one stops to realize that better than fifty percent reduction in the number of fires has been obtained, it is hard to feel otherwise. When the ordinance was first drafted and presented for passage, we did have opposition from some of the hotels. However, after a full understanding of how the ordinance would work and a few complete settlements for damage done without insurance claims, hotel people turned and are now very complimentary in their remarks concerning their experiences with mattress fires.

I believe it was the Fire Prevention Bureau of the City of Milwaukee that put us wise to a companion ordinance —an ordinance which makes it mandatory that all fires in hotels, lodging and rooming houses must be reported immediately to the Fire Department. There is no question in our minds but what the City of Milwaukee had the right idea. After two convictions of managers of second rate hotels, we have had the results we desired.

Just a word of advice, if you care to call it that: In order to give due and proper notice of all convictions, arrangements have been made with the Police and Fire Department reporter of the local daily paper to have a short story giving the facts of the case to the public as a news item. This is very important if good results are to be obtained from your ordinance.

Edward Joseph Page, Chief, Madison, Wis.: Eight fires from smoking in bed were attended by the Madison Fire Department. There was one fatality. We know, however, that there are many more fires of this type especially in hotels where these fires were not reported.

The State of Wisconsin has a statute to reduce this hazard. It is given below:

"WISCONSIN STATE STATUTES—343.08—Causing Fires by Tobacco Smoking: (1) Any person who, by smoking, or attempting to light or to smoke cigarettes, cigars, pipes or tobacco, in any manner in which lighters or matches are employed, shall, in a careless, reckless or negligent manner, set fire to any bedding, furniture, curtains, drapes, house or any household fittings, or any part of any building specified in subsection (2), so as to endanger life or property in any way or to any extent, shall be fined not less than $10 nor more than $50, together with costs, and in lieu of payment thereof may be imprisoned not less than one day nor more than 15 days.

"(2) In each sleeping room of all hotels, rooming houses, lodging houses and other places of public abode, a plainly printed notice shall be kept posted in a conspicuous place advising tenants of the provisions of this section."

It is extremely difficult to evaluate the effect of this type of legislation as a method of reducing the number

of fires caused by smoking in bed. The legislation is primarily a punitive measure, designed to punish the person after the act is completed, and the fire has occurred. In our experience with the above types of fires, drinking was involved in all cases; and, under conditions, it is impossible to anticipate the actions of the individual, just as it is impossible to anticipate the actions of a drinking driver. But where the combination of drinking and driving is unlawful, and the drinking driver is many times apprehended before an accident or fatality occurs, the combination of drinking and smoking is not unlawful and the drinker who smokes in bed cannot be seized until after he has caused such a fire.

The law as stated does not prohibit smoking in bed; it does, however, provide a fine in the event that such smoking causes a fire. Therefore, it has little deterrent effect on the sober individual who is inclined to smoke in bed since he has no intent of going to sleep and causing a fire; to the person who is under the influence of liquor, the threat is vague.

Education and publicity, in my opinion, are the only methods by which the fires caused in this manner may be reduced—education to reach into the private home where the law does not apply, and publicity given to fires and deaths caused by smoking in bed so that the people may be aware of the results of such an act.

Howard Dey, Chief, New Orleans, La.: In 1951 we had 85 fires caused by smoking in bed and in 1952, there were 32. We have no record of the actual fatalities, but know there were several from this cause.

Part 18, Section 205 of our Fire Prevention Ordinance No. 16,879, provides the following:

"Smoking Prohibited by Law.

"(d) It is hereby found and declared that smoking and/or use of any spark, flame or fire producing device, more particularly so the careless use of the same, in any hotel sleeping room or corridor leading thereto, is a menace and danger to the lives of the guests and occupants of hotels. It shall be unlawful for any person, or persons, to damage or destroy any of the furniture, fixtures, or appurtenances of any hotel, sleeping room or corridor leading thereto, by means of smoking or the use of any spark, flame or fire producing device. The owner, operator, firm or corporation having control or management of any hotel shall report to the proper authorities, for prosecution, the destruction by fire of any of the furniture, fixtures or appurtenances of any hotel, sleeping room or corridor leading thereto."

This ordinance is printed in red and posted in the rooms of guests at hotels, etc.

We feel that provisions of this ordinance are responsible for the reduction in the number of fires from this cause.

R. E. Garnett, Chief, Cheyenne, Wyo.: During 1951 there were five fires resulting from smoking in bed. During 1952 there were six fires from this cause and one fatality resulted from one of the fires.

There is no state law or city ordinance relative to smoking in bed.

I do believe that a law covering

HERE'S THE EXTINGUISHER YOU PICKED AS "EASIEST TO USE" OVER THREE OTHER LEADING BRANDS . . .

Randolph

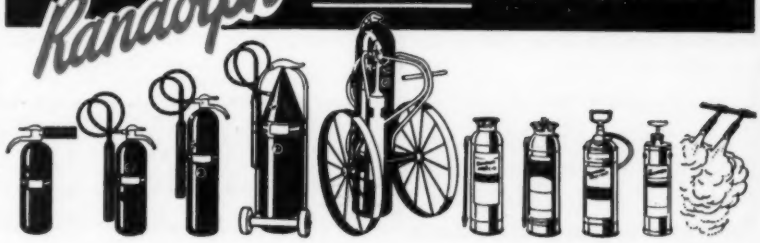
Safety and Plant Engineers—here's how you voted: In a national survey recently completed, 100% of your replies stressed *ease of operation* as a major factor in Extinguisher selection. And on the basis of being "easiest to use", 86% of your replies specified Randolph over the nearest brand—66% specified Randolph over *three* other leading brands, *combined!*

With no nozzles to adjust, no valves to turn, Randolph Extinguishers are 100% panic-proof. Just snap from the bracket, aim and press the trigger. You KNOW how to use this extinguisher *just by looking at it!*

COMPLETE LINE OF EXTINGUISHERS AND AUTOMATIC EXTINGUISHING SYSTEMS

Make sure your plant is mobilized for fire . . . with easy to use, simplified RANDOLPH Equipment. Sizes from 2½ to 50 lbs. Manual and automatic systems. Write Randolph Laboratories, Inc., 19 E. Kinzie St., Chicago 11, Illinois.

Randolph SIMPLIFIED FIRE EQUIPMENT



CAIRNS

PARADE BANNERS

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Write for Catalog 341

CAIRNS & BRO., Inc.
ALLWOOD, CLIFTON, N. J.

Outfitters to Firemen Since 1836

this, with adequate means for its enforcement, would reduce the number of fires from this cause.

L. Strange, Chief of Police & Fire, St. John's, Newfoundland: There were no lives lost in St. John's as a result of smoking in bed, but there were twelve fires in 1951 and eleven in 1952.

We do not have an ordinance dealing with the hazard of smoking in bed.

When visiting schools, orphanages and other institutions, we give short talks on the dangers of smoking in bed, especially during Fire Prevention Week. Two floats used in the annual Fire Prevention Week parade very vividly showed the results of such a hazardous practice.

Lloyd B. Dickson, Chief, Provo, Utah: There have been two lives lost in recent years in Provo due to smoking in bed, none in the past two years, however.

We have no local or state laws which deal directly with this problem.

I have made inquiry of several western cities and feel that such a law would be very helpful, especially as it would apply to hotels and motor courts and rooming houses. Our hotel and motor court operators are unanimously in favor of such a law, as they suffer constant losses to bedding as well as the risk of a serious fire resulting from bed smokers.

We intend placing small, eye-catching cards in each sleeping room advising the occupants of the hazards of smoking in bed and the smoker's liability should a fire result. These cards will be printed and placed by the fire department. We believe they will have a decided psychological effect which may reduce the number of bed fires, the vast majority of which we never hear about.

C. W. Wyrick, Chief, Greensboro, N. C.: We have had 125 fires in the past two years and two deaths due to careless smoking.

We have a city ordinance which is printed on a card and posted in all hotels and transient guest houses.

This ordinance has been helpful in reducing the number of fires from this cause. We are averaging less than one per month now.

The North Carolina Firemen's Association is trying to get legislation passed to include apartment houses and other occupancies that cater to permanent guests.

F. E. Wood, Chief, Wichita, Kans.: No lives have been lost in recent years as a result of smoking in bed. However, there has been several casualties in the last two years by this practice. The majority of these fires occurred in hotels, rooming houses and apartments. Our classification of fires does not list a special category for fires that occur through smoking in bed. For example, fires which occur through careless smoking, regardless of what was involved or where it occurred, are listed under one category "Careless Smoking."

We had a total of 254 fires during the years of 1951 and 1952 which were caused by careless smoking and resulted in a loss of $66,264.00.

We recently recommended that an Ordinance be adopted which would prohibit smoking in bed in hotels and rooming houses. The City Commission, after a lengthy discussion, did not adopt the Ordinance as they were of the opinion such an Ordinance could not be enforced.

In proposing such an Ordinance, we realized that all laws have their enforcement problems and certainly this law would not be an exception. But it should be effective in reducing such fires if the majority of citizens are willing to comply with the law and we definitely believe they are.

J. C. Sievert, Chief, Tucson, Ariz.: In 1951 the Tucson Fire Department answered eleven fire alarms caused by smoking in bed. In 1952 there were eight alarms and one death from this cause.

We do not have a city ordinance or state law.

I believe posters in hotels and rooming houses would help in warning people of the dangers of this practice.

G. L. Nalley, Chief, Little Rock, Ark.: I do not know of any lives having been lost by smoking in bed, but we have a doctor in the V. A. Hospital now who will have to have his left leg amputated because of burns he received from smoking in bed. This man had been arrested twice before.

We have an ordinance which provides for a fine of $25.00 to $100.00 and imprisonment.

We have had good results with this ordinance. It also rids the hotel of unwanted drunken guests.

A FRIENDLY REMINDER

HELP MAKE YOUR STAY WITH US AN ENJOYABLE ONE.
PREVENT FIRES

1. **Don't smoke in bed.**
2. **Watch careless discarding of cigarettes and matches.**
3. **Know your nearest Exit or Fire Escape before retiring.**

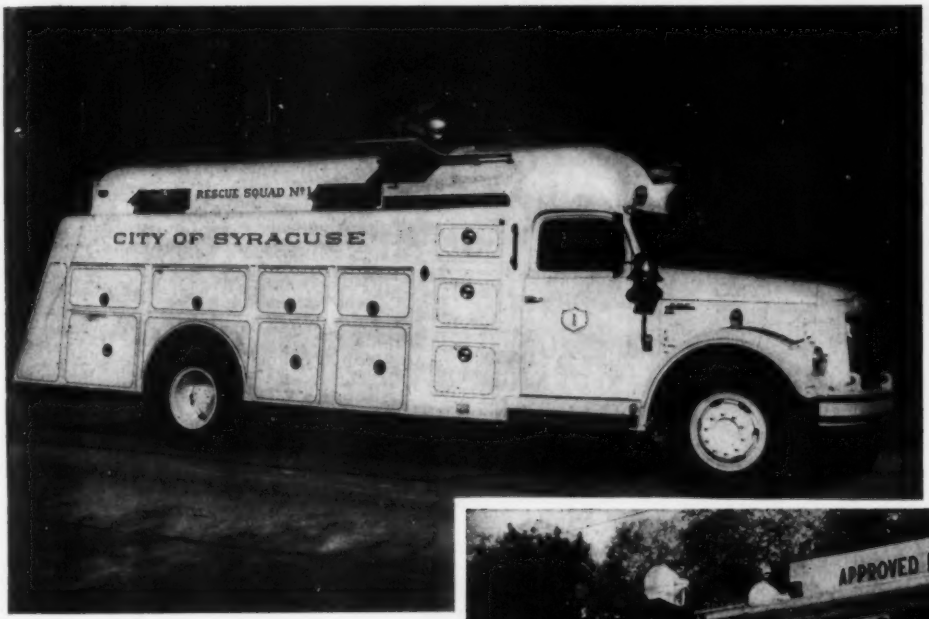
NORTH CAROLINA HOTEL LAW: Chapter 69, Art. 4, Section 33
Enforced by the Greensboro Fire Prevention Bureau.

CARELESS OR NEGLIGENT SETTING OF FIRES.

Any person who in any fashion or manner negligently or carelessly sets fire to any bedding, furniture, draperies, house or household furnishings or other equipment appurtenances in or to any hotel or other building of like occupancy shall be guilty of a misdemeanor and shall be subject to a fine of not less than $50.00 nor more than $500.00 or to imprisonment or to both fine and imprisonment in the discretion of the court.

MANAGEMENT

Greensboro Fire Prevention Bureau.



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From its 500 gallon tank,
It knocks the very blazes
Out of fires of every rank.

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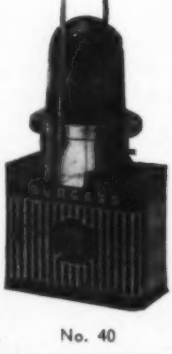

THE PORTABLE LIGHT CO., Inc.

No. 41 216 William Street New York 38, N. Y. No. 40

Among the Buffs

By Paul C. Ditzel

THE fire chief's nightmare was dramatically enacted the other day in nearby Burbank when firemen turned out to a multiple alarm in a sprawling lumber yard and during the battle learned of another serious fire only a few blocks away.

First notification I had of the fire came when Engine 82 of the Los Angeles Fire Department was dispatched after Westlake Signal Office was flooded with telephone calls. Engine 82 radioed: "There's a heavy black cloud of smoke looming up. It looks as if it's in Burbank." I looked out the window of my den—the same window through which I've spotted other fires—and saw a loomup reminiscent of the recent Warner Bros. studios fire.

I was parking my car near Burbank's main fire station, which was only a few blocks from the lumber yard blaze, when I heard the alarm bell ring inside the firehouse. A Burbank pumper pulled out and headed in the opposite direction from the lumber yard. I looked and saw another black cloud coming up just off the city's main thoroughfare. Simultaneous fires, of course, are dreaded by fire chiefs, especially those in smaller communities. The second fire heavily damaged the roof of a two-story apartment building.

On the way back from the fires I saw the fifth car ahead of me on the Cahuenga Pass shoot off a 100 foot high embankment and roll over and over to the bottom. I jumped from my car and ran to the motorist's aid. He was unhurt! But it was another run for the firemen! Quite a busy day for all concerned.

From Tom Jewett, 6442 McGee St., Kansas City 13, Mo., comes the tragic news of deep sorrow in the Kansas City Fire Department. Harvey L. Baldwin, chief of their department, died of a heart attack while directing 12 companies at a fire at the Penrod, Jurden & Clark lumber plant at 7400 St. John Ave. The 49-year-old chief won national fame for his heroic day-and-night stand at the Southwest Boulevard oil fire during the 1951 floods in Kansas City.

Then, a few days later, three firemen of that city were killed at a multiple alarm fire in the Eyssell Court apartments. The firemen were killed when back porches attached to the apartment building collapsed. One of the firemen, Don A. Nastasio, 32, was off-duty at the time but heard of the fire while visiting Engine 25.

Ironically, Fireman Nastasio was a fire buff who used to fan out at Engine 14. One fireman in particular influenced him to join the department when he became older. That fireman was the late Chief Baldwin. The other firemen killed were Melvin Kurtz and Joseph Cooney. Four other persons, all residents of the building, also were killed in the fire.

On a happier note, Tom reports his collection of fire books has now reached 66, with five more en route to him when he wrote. Tom is an excellent correspondent and he'd like to hear from any of you who have fire books to trade or sell.

A friendly letter from an avid fire buff across the Atlantic comes from William J. Butt, Osier's Cottage, Teynham, Sittingbourne, Kent, England. Bill is editor of a small periodical which circulates throughout the County of Kent as the magazine of the Kent Fire Brigade. He sent me several copies which are packed with interesting material.

Bill said fire fans, generally, don't get much encouragement at English fire stations but he has a "wireless set which picks up the local fire service messages. I go off to any job that is reasonably near. But, oh, the chagrin to wake up in the morning and know one has missed a twenty pumper a few miles away." We know just what you mean, Bill!

I was interested to note the record of alarms which Bill publishes in his journal. There are two types of false alarms shown: Malicious and Good Intent. Here's how Bill describes the county's major fires for a typical month:

"For the second time within two years Palace Farm, Doddington, was attacked by fire. A brick and timber barn was involved. Sittingbourne received the call at 2227 hours on 19th March and turned out their Water Tender, putting the bells down for Pump Teynham. Station Officer McCayna sent back 'Make pumps three, hose laying lorry required' on his arrival, finding the barn well alight and threatening adjacent farm buildings and the farm house. Three jets were used."

Next time you fans hear your pals griping about the condition of their firehouses, tell them about this station in County of Kent:

"The joys of being stationed at Maidstone Fire Station, where conditions are recognized as being appalling bad, have been heightened by the use of the premises over the fire station as a roller skating rink."

That's it for this month. Until "the bells go down" again I'll be turning out my own turntable ladder from 1246 Tamarind Ave., Hollywood 38.

New National Board Films

Four 16mm. films produced last year by the National Board of Fire Underwriters have won Awards of Merit in the 1953 safety film contest sponsored by the National Safety Council.

Three of the films, "What to Do Until the Fire Department Arrives," "How to Call the Fire Department," and "Stupid Carelessness, the Fire Clown," received awards in the non-theatrical class of general subjects. The fourth, "How to Fight Fire in the Kitchen," received its award in the non-theatrical home instructional division.

All four films are five minutes long and were intended primarily for television broadcasting, but are available for showing in schools, clubs and industry.

The films, "How to Fight in the Kitchen," "How to Call the Fire Department," and "What to Do Until the First Department Arrives," are black and white pictures; the "Stupid Carelessness" film is in color. Scripts for all four were written by J. Wendell Sether, director of public information of the National Board.

Prints of these and other fire prevention films may be booked free of charge by writing to the National Board of Fire Underwriters film library, 13 East 37th Street, New York City 17.

BOOST POWER INSTANTLY with the KAAR

For greater range and clearer signals, vehicle-to-station or vehicle-to-vehicle, the *new* Kaar Power Booster will increase the power output of any 10 watt mobile transmitter *six times* without increasing the standby battery current.

Here's how it works:

1. Insert Power Booster between low power transmitter and antenna.
2. Select power needed by switch on dashboard.
3. Push microphone button to go on the air *instantly* with added power.

Using an Eimac 4-65A tetrode, the Power Booster is "Instant Heating"—does *not* draw power from battery until microphone button is pushed. Selector switch on dashboard simply puts Power Booster in readiness. (Note: The added power is used *only* when needed—thus conforming to the FCC good engineering requirements.)

Use the Kaar Power Booster with any mobile transmitter operating in the 152-174 mc band and enjoy mobile communication excellence never before attained. (Another Kaar Power Booster will soon be available for use in the 25-50 mc band.)

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The WATCH DESK

Overhauling the firemanic news of the day

by RC1 B. WOOLLEY

No Patented Alarm This—But It Works

Two lives were saved by a non-patented, unorthodox alarm "gadget" in Boston, Mass. Michael McCarthy, 50, 21 Soley street, Charlestown, was the quick thinker, who conceived the idea and executed it.

When fire involved the 3-story wooden dwelling where McCarthy lived, it looked like he and his wife were trapped on their third-floor bedroom.

But McCarthy was not to be denied. He investigated and it came to him he was only about 40-feet from the fire station of Boston's Engine 50. How to alert the lads and bring 'em on the jump was the problem.

Nothing daunted, Mac grabbed up the family alarm clock, and with perfect aim heaved the timepiece right through the window of the firehouse. The unorthodox fire alarm landed amid a shower of glass and "with an 'ell of a racket" on one of the beds in the sleeping quarters of the company, whereupon there was action a-plenty.

The blaze apparently started in the second floor kitchen from a carelessly disposed cigarette. Damage $2,000 including the "alarm clock."

Thanks S. LANCASTER

* * *

Expectant Father "All Lit Up"

Luther A. Sanford, 31, an expectant father of Harrisburg, Pa., was nervous, like other expectant fathers. He chain-smoked cigarettes—like other expectant fathers have done. But January 13th he smoked one too many. He was pacing and puffing away in his apartment on N. Second Street, while his wife was in Polyclinic Hospital. He smoked, he huffed and he puffed, and he paced, and he sat. He—well, you know how it was.

Pretty soon the smoke began to choke the room—and Luther. The expecting-one felt sleepy. He sat down and closed his eyes. Suddenly he was awakened by a heat—and a crackling sound. Fire!

Sanford, forgetting his role as expectant father for the moment, jumped to his feet, smashed a window and leaped out.

Sanford, too, is at Polyclinic Hospital.

Thanks REILY HOSE CO., Harrisburg

* * *

Add—"Extra Curricular"

Firemen of Troy, N. C., were called March 20th to save a baseball diamond. It seems the Troy High School baseball club and their arch rivals, the Candor High team, were scheduled to slug it out at the VFW baseball park, Troy, when fire raised its ugly head, roaring out of the forest nearby and threatening the park n' everything.

From coach to batboy the Troy team waded into the fire, but it was too much for 'em—and they called the Brothers. The combined forces beat back the blaze, and fifteen minutes before game time, the lads jumped into their uniforms and with cheer leaders shouting "Troy is Red Hot" proceeded with "fire in their eye" to beat the blazes out of their arch rivals, Condor High, by a score of 39 to 1, the battle being called in the 6th inning on account of darkness.

P. S.—Incidentally, Troy's coach is named Frye!

—Thanks D. G. SPENCER

* * *

It's All Done With Doors!

The old mirror trick is now being done with doors—in Cleveland, Ohio.

When that city's firemen started to take out the door to the bathroom, in answer to an "emergency call," little Steven Blaushild toddled over to see what was going on—or coming off.

The Brothers did a double take. Seems, little Stevie was supposed to be locked inside that bathroom.

The three-year old youngster had been seen going into the room. Later, the door was locked from the inside, and Steven refused to come out—preferring to play in the empty bathtub.

But when the Brothers who were called in the "emergency" got there, it developed that Steven scrambled out of another door to the bathroom, and came up behind the rescue squad.

* * *

And Another, in the Same Vein

Out in Los Angeles where fire fighters are inured to "X-curricular" jobs, 18-months old Raymond Kelley was having the time of his young life—until firemen and their shiny red apparatus came along to spoil the day.

Raymond's mother, Mrs. Billie Kelley, accidentally locked herself out of the house (pause, Brother before you say tell us somethin' new). While she was on the outside trying to look in, the young hopeful took over.

While frantic mama played a staccato accompaniment with her fists on the door and shouted for admittance, the darling (brat) emptied the cupboards, spilled dishes, buttons, paper and food on the floor, and generally raised merry hades.

Raymond was looking for new worlds to conquer when a big man with a big hat and a big axe confronted him. And that was the end of that!

The Giant, as Raymond viewed him, was one of those Brothers who came on the double and forced an entrance when Raymond's ma called for help before her offspring tore down the house.

* * *

Hot Off the Tape

"It seems incredible" said press reports, "but Fire Chief Robert Miller of the Marysville, Calif., Fire Department says his town's new 48-foot-long, fire truck—painted a fiery red, of course—has disappeared somewhere in the wide, wild West. It was due in Marysville April 5, from the American La-France Company, Elmira, N. Y. They assured the chief the apparatus had passed through Denver—but after that, there was a fog." . . . (Thanks WILSON DAVIS). . . . While fire chiefs from 60 Alabama communities held their state convention in Montgomery, Ala., April 9, separate fires broke out in homes just across the streets from two fire stations. The second fire badly damaged the residence of John A. Stringer, a fireman. . . . Governor Thomas E. Dewey of New

York has signed a bill creating a temporary state commission to study laws relating to volunteer firemen and fire prevention. The sum of $20,000 is appropriated to cover the expense for such a study. . . . A Superior Court jury in Hartford, Conn., on March 24 awarded a former Hartford policeman $10,000 for injuries sustained in an automobile accident that occurred while he was answering a fire call. The officer's cruiser collided with a private auto, resulting in his receiving a 25% disability. He sued the owner of the vehicle. . . . There's gonna be weeping and wailing and gnashing of teeth among those New Jersey church, charitable, fraternal, veteran's and other groups (including volunteer fire services) as a result of the state Supreme Court decision to definitely close down on all bingo and other money-raising games which border on gambling. . . . In Battle Creek, Mich., Mr. and Mrs. Jim McWade were made homeless last March because fire apparatus couldn't make it from their station only 200 yards away in time to put out a fire in their house. A passing freight train blocked the road between the fire house and the burning dwelling. . . . Nearly one-quarter of the New York Fire Department personnel, comprising about 3,000 men of all ranks, went on a forty-two-hour work week on April 1. The men involved consisted of firemen from deputy chiefs down to probationary firemen in the 4th, 5th and 11th Divisions. . . . Press reports said "Twenty women gathered at the Fire Hall Monday night to organize a Ladies Auxiliary of the Roulette Fire Department." That's one "roulette" that is allowed in New York State. . . . Police said that Mrs. Mary Slobagion, 58, of Michigan City, Ind., apparently tied herself to a tree, poured gasoline over her clothing and set herself alight. Her body was found by firemen called to put out a brush fire that had spread from the woman's blazing clothing. . . . Radio is percolating into the hinterlands. Down Arkansas-way, the town of Paragould has added new, heavier generators to its west side and east side fire apparatus, and "transferred the radio equipment from the paddy wagon to the east side fire truck."

* * *

Town Keeps Secret When Vamp's Pet Project Goes Kaput

Down in North Carolina is the town of Pembroke (pop. 1,212). It has a volunteer fire department which according to the press, some time ago started a venture to provide funds for the organization and for other civic improvements in the community.

The project took the form of the "Firemen's Drug Company"—a pharmaceutical business, if you please, run by a pharmacist the vamps engaged after buying the original business.

All this was no secret to the good townsfolk who, reports state, were happy to patronize the business. What was a secret, however, only recently disclosed, is the fact that of an April Saturday in 1952, fire resulting from defective electric wiring, destroyed the store and contents.

The whole story would never have come to light but for a roving venturesome reporter who dug out the facts while searching for news.

Deponent saith not whether or not the project was profitable, or what the vols are now doing to raise the wherewithall. Thanks IRVING JOHNSON

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You're really "hooked" if you don't have enough of these famous, clear water extinguishers to take care of any fire emergency. Order Now! Don't wait until the fire season is here to stock up on INDIAN FIRE PUMPS.

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Obituaries

Johnston, Colorful Patrol Figure, Dies

Sidney Albert Johnston, 91, who retired from the New York Fire Patrol in 1927 with the rank of assistant superintendent, after 40 years of service, died Apr. 13 last. At the time of his retirement he believed he had responded to 21,000 fire alarms, of which 2,200 were during the winter of 1895-6.

For years captain of Patrol 1, he twice won the Life Saving Medal of the Fire Department; he was a fire patrol officer in whom experienced fire fighters had confidence; in emergencies he had been designated at fires as acting battalion chief. His ability to diagnose fires legend has it, "smacked of magic."

At the disastrous Equitable Building Fire, January, 1912, Johnston refused to permit his men to follow him into the fourth floor where he encountered Battalion Chief William Walsh and men of Engine 4, because of danger he sensed. He urged the Chief to back out but the latter remained to be caught and was killed by a floor collapse.

The doughty captain went through the Blizzard of 1888 when with other fire patrolmen he was assigned to horseback patrol service.

After his retirement he settled in Salisbury Plains, near Newburgh N. Y., where he continued his active interest in salvage work. He helped develop the Nyack, N. Y., Salvage Corps, the first Volunteer Fire Department Corps, which has made an enviable record in this field.

Former Chief J. A. Kirby Dead

Joseph A. Kirby, Dayton, Ohio, Fire Chief from 1939 to 1950, died Jan. 28 at the age of 80 after being stricken with a cerebral hemorrhage on Christmas Day.

Few veterans of the nation's fire service were better or more widely known than the colorful "Fireman's Fireman" as he has been termed. During his 42 years in the service, he saw his City's Fire Division grow from a small horse-drawn organization to a fully modernized department. Through Chief Kirby, who seldom missed a Conference of the International Association of Fire Chiefs, or one of his own State fire organizations, the Dayton Fire Department and its accomplishments were publicized from coast to coast.

Chief Kirby rose through the ranks of the service by sheer merit alone. A "lovable and soft-hearted citizen of Irish extraction," his wit and ability as an orator and raconteur endeared him to a small army of friends.

Upon his retirement in 1950 he was succeeded by former assistant chief, Forrest B. Lucas.

Former Chief U. S. Grant Dies

Former Fire Chief U. S. Grant, for eight years head of the Evansville, Ind., Fire Department and the last living member of the original "Metropolitan" Fire Department in Evansville, died March 28, aged 86, after a month's illness. He served 45 years and 7 months in the department, retiring in 1934.

It was during Chief Grant's first term as Chief that the department went "modern." At that time (1912) he bought the first "motor wagon." During his second term he acquired a 1000 GPM pumper, the city's first.

Of the 45 years of his service, he was captain for 18, assistant chief for 10 and chief for 8. He retired as a captain (in Indiana fire chiefs are appointed and regraded at the will of the mayor).

Paterson, N. J., Police-Fire Supt. Dies

Daniel F. Moore, superintendent of the Paterson, N. J. Fire-Police Telegraph Systems for 31 years, died suddenly on March 17 last, of a heart attack.

Local police and firemen labored with inhalators to save him following his seizure, but their efforts were in vain.

Superintendent Moore was in charge of both fire and police communications. He was appointed temporary lineman in 1920 and made superintendent in 1922 upon retirement of the late Joseph F. Zeluff.

Asst. Chief Middlekauf Dies at Fire

Assistant Chief C. A. Middlekauf, 65, a veteran of more than 43 continuous years on the Houston, Tex., Fire Department, succumbed following a heart attack after being partially overcome by smoke while battling a $100,000 fire, March 10, 1953. Led from the burning poultry company plant, he collapsed and,

SENSIBLE

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GOVERNMENT SPECIFICATIONS

After 60 years experience in the fire-fighting equipment field, Powhatan takes justifiable pride in the Improved Sensible Lug Coupling. Our full 60 years of know-how are represented in this modern and dependable piece of equipment. . . . Specify "Sensible."

POWHATAN BRASS and IRON WORKS

RANSON, WEST VIRGINIA

Phones 93 & 94 Charles Town West Virginia

Established 1892

although members of the Harris County Emergency Corps administered first aid, failed to respond.

Chief Middlekauf joined the fire department Jan. 1, 1910, and worked up through the ranks to become Acting Chief in August, 1948, upon retirement of Fire Chief Roy Whittlesey. At his own request, Chief Middlekauf was moved back to assistant chief on Sept. 12, 1950.

World Wide Fire News

By Roi B. Woolley

Firemen Aid in Fatal London Subway Crash

The worst disaster in the history of the London subway system took nine lives and left eight persons seriously injured on April 7th, when a subway train jammed with homeward-bound workers crashed into the rear of another train during the rush hour, near the Stratford station in London's East End. Minor injuries were suffered by 41 other persons.

Fireman, policemen and volunteer rescue workers toiled for hours in the glare of powerful portable lights set up in the tunnel to remove the trapped victims. Most of the casualties were in the first two cars of the train headed for Epping which plowed into the rear of that bound for Hainault.

Rescue teams operating on telescoped wreckage to reach casualties were slowed by suffocating heat. The use of cutting torches was limited because of the fear of causing a fire or explosion. In the darkened cars away from the point of impact, firemen sat facing one another across the tilted aisles with fire extinguishers waiting in case fire should break out. Other firemen labored with jacks and other rescue tools to separate the wreckage.

Walkie-talkie radios were effectively used to direct rescue operations. Nurses held sweating victims while firemen struggled to cut them free of tangled metal; a doctor had to amputate one victim's leg in order to free him. Blood plasma was administered to the badly injured on the spot. Despite the danger of electrocution in the first few minutes after the accident, firemen and nurses inched their way through the tangled wreckage to reach the victims. After power was cut off, the uninjured and less severely hurt were led out of the tunnel via the Stratford exits, 100 yards to the west of the scene of the crash.

Exact cause of the disaster was not immediately determined. The London subways have a system of automatic blocks, supposedly foolproof, to prevent two trains from entering the same section of track at the same time.

* * *

Formosa Blast Kills, Injures Many

An undetermined number of persons were killed and 500 injured when an ammunition dump about 11 miles south of Taipei, Formosa, exploded on April 6 last. Reliable sources claim over 30 persons were inside the building which was destroyed, leaving a crater 30 feet deep and 100 feet in diameter. Twenty three bodies had been recovered and 270 injured admitted to hospitals on the morning of the blast.

The explosion was touched off by a 12-man squad reportedly detonating 200

"The Chief says to get in there fast! Get the Scott Air-Paks"

PROTECT LIVES . . . KNOCK FIRES DOWN FASTER

with Scott Air-Pak TRADE MARK BREATHING EQUIPMENT

• When the building's charged with smoke and you've got to get to the source of the fire fast . . . slip on a SCOTT AIR-PAK in seconds and start to breathe that *cool, fresh air.* No matter how hard you work, you get relaxed comfortable breathing when *your life depends on it.* There's no fogging up of masks to restrict your vision, no worry about making your voice heard by others. You'll feel safer and put those fires out faster, make those rescues quicker, when you're wearing your SCOTT AIR-PAK.

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SAFETY EQUIPMENT DIVISION

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OREN does *NOT* offer its fire apparatus to the entire country. We have long believed that the best policy is to sell only in areas which can be properly serviced. Due to our location we confine our sales effort to the Eastern portion of the country and an average distance of 1000 miles from Roanoke. Service stations, with expert mechanics, have been established to properly take care of our customer areas furthest from the factory.

This policy assures all our customers of good service throughout the life of the apparatus, and prevents there being any "orphan" fire engines built by us. We consider *service* important and as mentioned above will sell only in areas where we can assure our customers of the RIGHT KIND OF SERVICE AT ALL TIMES.

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Portable Canvas Water Tanks
THE ECONOMICAL AND EFFICIENT WAY TO CARRY AND STORE WATER.

ON THE JOB - ON THE SPOT
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EXCLUSIVE FEATURES

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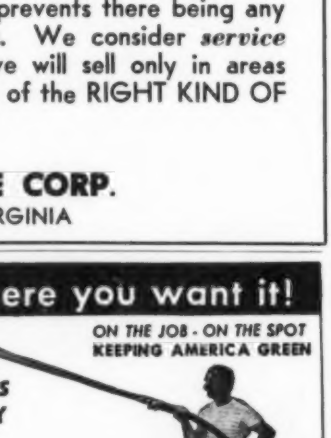
- Ideal for Relay Pumping
- Easily Transported

Available in 150 & 300 gallon sizes

A WATER SUPPLY AT THE SCENE OF THE FIRE



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HARODIKES INCORPORATED
NORTH DIGHTON, MASSACHUSETTS

tons of old Japanese bombs and explosives, in a dismantling plant of the Chinese Nationalist Army. The blast lifted the roof and crushed the walls of a chemical explosive factory about 500 yards away. Early surveys indicated approximately 200 houses in surrounding villages were either destroyed or damaged by the blast, said to be the worst since the explosion on board the cargo ship Chung Li in Kaohsiung harbor in August, 1949, when 100 persons were killed.

* * *

Nude Departure in Fire Fighting?

The nudist cult seems to be gaining ground in the "tight little Isle" according to the press. Many American doughboys will remember a certain camp, not far from a big bomber-fighter field. It's in a section replete wtih air raid shelters, anti-splinter fabric on the windows and good old stirrup pumps. Most pilots know the camp by dead-reckoning. Low-flying bomber squadrons skim the tree tops, and reconnaissance planes circle the camp daily.

The height of something or other was reached when an attendant of the camp, wearing a cap and knee-high fireman's boots—and nothing else—demonstrated a stirrup pump for fighting fires to denizens of the camp.

A dozen nude men and women watched. Rumor hath it the attendant was a former British Fire Brigade officer who had come up from London "to get away from it all and relax"—and had "joined up."

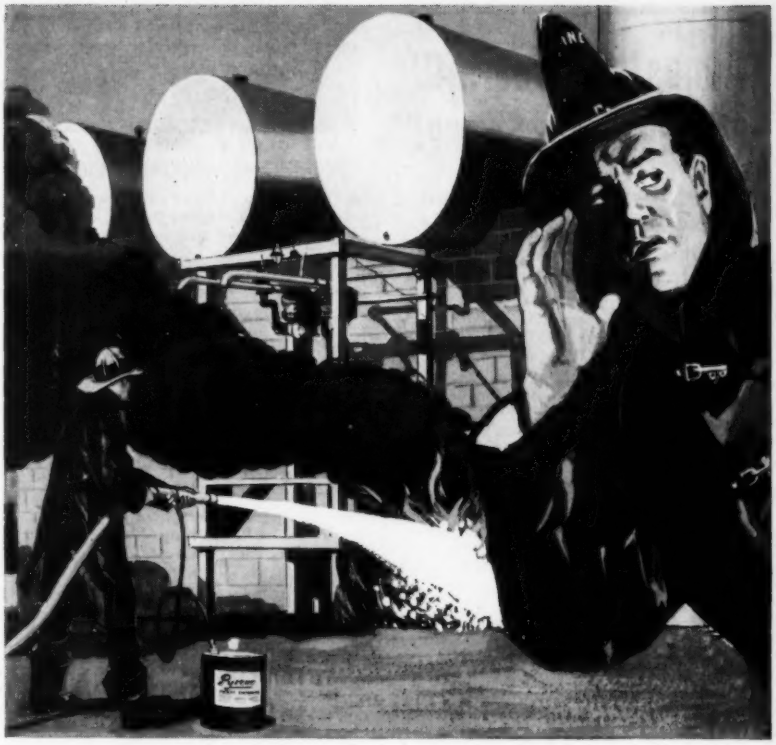
Meanwhile the neighboring gentry and the airmen reportedly have been hoping for a good (or a bad) fire in the camp.

* * *

Hot Off the News Ticker

Three men died in an elevator which jammed between floors of a burning Glasgow, Scotland, upholstery factory on March 16; a fourth was missing and a fifth seriously injured. All five were trying to reach the fifth floor to see if girl workers had been trapped by the flames. Firemen could hear their shouts for help but were unable to reach them before the flames. . . . When thousands of rioting Communists battled police outside West Germany's barbed-wire barricaded Parliament Building in the March 19 uprising, Police called upon firemen to help quell the mob with high pressure hose streams. . . . In Vire, France, a fire inspector said a farmer's cat, that snuggled against a stove to get warm, caught fire and caused $7,000 damage to a barn when the feline rolled in the hay, igniting it. No report on wha hoppened to the feline. (Thanks, W. A. McDonnell). . . . The rarely-used Vatican City Fire Department was called out last December for the first time in over two years, to put out a short-circuited and smoldering cable in St. Peter's Basilica. An alarm was sounded when smoke was seen coming from the top of the great dome of the church. The last job was a hay fire, in 1950. . . . It is reported that the siren which was used to alert New Yorkers for possible air raids from atop the Empire State Building during World War II now is a fire alarm signal in the Village of Lovell, Maine. It is located on top of a 30-foot tower in the outskirts and is operated by remote control from the local telephone office switchboard. (Thanks, Irving Johnson). . . . In San Diego, Calif., it is reported by Contrib' John J. Weisberger, salutes from Navy recruits became so tiresome that battal-

lion chiefs of the San Diego Fire Department changed the color scheme of their hats. The blue cap with its white and gold chin strap and gold device bore too close a resemblance to a naval officer's cap. When new caps, all blue, were brought out it's said all saluting stopped. . . . Victor Lefebvre, 23, was arrested in Montreal, Que., and charged with setting 46 fires. Police said he admitted wholesale arson and explained he was sore because the fire department turned down his application for a fireman's job. . . . Eight men were killed in Mexico's Poza Rica oil field recently when a pipe line burst. They were aboard a railcar crossing the pipline when it let go with a roar. The gas tank of the railcar exploded. It is believed a spark from the car's engine may have touched off the blast. . . . It has just been disclosed that a stray bullet, apparently from the rifle of some hunters seeking bear about 100 miles north of Flin Flon, Man., touched off 45,000 pounds of dynamite stored in a railroad construction camp, killing two men and injuring three others. The blast left a crater 50 feet wide and 15 feet deep. . . . They tell this one on Fireman Hugh M. Barnes of the District of Columbia Fire Department (Eng. 25), who unwittingly contributed a pair of shoes to the "Clothing for Korea" drive. When his station received an alarm, he hopped on the truck, kicked off his shoes and slid into his boots. The shoes landed near a pile of clothing nearby residents had brought to the station, a clothing drive center. While Brother Barnes was helping squelch a minor blaze on Alabama Ave., a collection truck made a pickup call. Youguessedit—Barnes shoes were collected too. (Thanks, IRVING JOHNSON). . . . Fire in February ruined one wing of a South Korean Army hospital containing 400 battle casualties, near Seoul. Patients, all South Koreans, were removed safely. . . . A $2 million B-47 stratojet bomber was destroyed and another damaged beyond repair in an explosion and fire in February at the Boeing plant, Wichita, Kans. Firemen prevented the blaze from extending to several acres of the 92½-ton bombers, the world's fastest. . . . A powder-filled metal tube used for fireworks display exploded in a crowd of 5,000 carnival celebrants in Barranquilla, Columbia, killing one and injuring 16. . . . Losses due to the February forest fires that raged in Chile are said to be in excess of $16 million. . . . In March, fire destroyed the sprawling machine shop of the Halifax, N. S., shipyards with estimated loss of over $1 million. The fire slowed heavy ship repairs in the yards, the city's largest industry. The origin of the blaze was undetermined; it started at one end of the 400 x 100 foot building and ungulfed it within five minutes. . . . Al Keshner, 43, whom Gov. Thos. E. Dewey spared from the electric chair after he was convicted for plotting an insurance fire in New York City in which a detective died, was removed from Sing Sing's death house to the prison hospital. . . . Two men were injured in a fire and explosion which rocked downtown Calgary in February. The fire, reminiscent of Washington's appliance store blast which seriously injured two score of District of Columbia firemen, including Chief Sutton who is still in the hospital, started in the rear of the store from unstated cause and was followed by three explosions which practically wrecked the structure. Fortunately no firefighters were injured.



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with a

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AIR FOAM PLAYPIPE

Each of your pumpers should carry a Pyrene* Air Foam Playpipe. They multiply the fire-fighting capacity of a limited water supply. Each one instantly produces 350 gallons of fast-acting foam from just one gallon of Pyrene Air Foam Compound and 20 gallons of water. Pyrene Playpipes are sure death to flammable liquid fires, bad spill fires, crash fires, fires in ordinary combustibles. They may be used with booster tank and ¾" to 2½" hose.

The cost of equipping one pumper is *only $64.50*. This includes a Pyrene Playpipe, pick-up tube, hose adapter, and 5 gallons of Pyrene Air Foam Compound. Decide to get this low-cost, extra efficiency right away. Write for name of nearest Pyrene Air Foam jobber.

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Portable fire extinguishers: vaporizing liquid, soda-acid, foam, cartridge-operated, carbon dioxide, dry chemical, and pump tanks • **Wheeled extinguishers:** soda-acid, foam, carbon dioxide, dry chemical types • **Air foam playpipes** • **Systems** for special hazards

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PYRENE MANUFACTURING COMPANY

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Affiliated with C-O-Two Fire Equipment Co.

"Almost 30 Years Old and Still Going Strong!"

That's what owners report today about some of earliest models of Pacific Pumpers ever built.

TYPE Z

WHEN THE FIRST Pacific Pumper was introduced, it was a startling innovation. To produce an efficient pump light enough to carry by hand into rugged terrain but powerful enough to deliver an effective flow of water to combat forest blazes was news of national importance. Today, after nearly 30 years, many of the earliest Pacific Pumpers are still in use and are still the favorite of experienced fire fighters . . . mute testimony to the stamina and dependability built into all Pacific Pumpers . . . and to Pacific Pumper's policy of supplying parts for even the earliest models.

TYPE Y

Years of engineering research and thousands of practical field tests made possible the improvements incorporated in the famous Type Y Pacific Pumper . . . the most powerful unit ever built for its weight and size. The Type Y Pacific Pumper quickly won the approval of experienced fire fighters and fire fighting authorities . . . and is still the standby of many of the nation's most practical forest fire fighters. Newer, postwar models of Pacific Pumper are now available . . . all even lighter, more compact and durable, and more versatile for a variety of purposes.

Write for data on the complete line of Pacific Pumpers, hose and accessories

PACIFIC *Marine Supply Co.*
FIRE EQUIPMENT DIVISION
SEATTLE 1, WASHINGTON

Short Cuts and Gadgets

VERMONT WARDEN TOOL BOX

In Vermont the responsibility for fighting fires within town boundaries is largely the duty of the town fire warden, and the matter of supplying fire extinguishing tools is left to the individual towns. Procurement and maintenance of these facilities is often a problem.

This is how the Town of Woodford met the problem, as described by Mr. Edgar W. Killian, Res. Mgr., Draper Corporation, Bennington, Vt. (and published in The Northwestern Logger, April, 1953).

Four different groups cooperated in this endeavor, which was to install boxes with complements of tools to conform to the U. S. Forest Service standards for the area. The set-up is essentially the same as was used on the New England Forest Emergency after the hurricane in 1938.

Mr. Killian laid out the plan and submitted it to the Town meeting, where voters gave it unanimous approval. It called for construction of two boxes and supplies of tools, one box and contents to be left for the eastern part of town known as Woodford City; the other to be placed near the Draper Corporation plant "in the hollow" to take care of the western part of town.

The box, pictured with complement of tools herein, measures roughly 24 in. wide, 21 in. deep and 7 ft. long. Total weight of box and contents is approximately 300 lbs. It is equipped with carrying handles at each end and two men can readily load it into a pick-up truck.

The equipment for the box consists of the following: 3 axes, S.B.; 2 batteries, flashlight; 4 buckets; 1 can kerosene, 1-gal.; 1 funnel; 1 file, mill 8-in.; 1 flashlight; 2 adze hoes; 1 knapsack; 3 lanterns; 1 pad and pencil; 1 peavey; 2 pack-pumps; 5 fire rakes; 1 cross-cut saw; 9 car seals; 3 shovels; 1 axe stone; 2 saw wedges; 1 bag, drinking water; 1 first aid kit; 6 back-fire torches.

These tools cost around $105 in 1949. Considered a 10-man outfit, there are actually enough tools to supply 15 fire fighters, or about the right force for one man to supervise, according to Mr. Killian.

As the need for more tools arises, they can be added, he states, but the outfit described makes a good basic unit and has demonstrated its value on several small forest fires.

* * *

HYDRANT SIGNAL LIGHT SYSTEM

The Mattydale Fire Department, located in East Syracuse, N. Y., has among its members a group which is constantly trying to figure ways to better the fire service by makings things easier and quicker.

A few years back, the department was having difficulty on maintaining contact between the hydrant man and the pumper at the scene of the fire. Sometimes it was darkness and stormy weather that made it hard to hear orders; sometimes too many men were trying to do the signalling.

The result was that the "gadgeteers" developed the "Hydrant Signal Light System," which consisted of locating on the highest point of the pumper cabs, three lights: red, amber and green. At the same time, three switches were placed at the operator's panel, colored the same as the lights.

When the driver stops at the scene of the fire he immediately turns on the amber light for the hydrant man to be ready to start the water. He turns on the green light when he wants the hydrant man to start the water. Then the operator turns off the green and turns on the red when he doesn't need hydrant water any more, or in case of an emergency, such as a break in the line.

This system, it might be explained, operates most effectively with what is known thereabouts as the "Mattydale

Fire fighters' tool box with complement of tools.

Hose Lay," which also was devised by the members a few years back. It consists of a double 1½-in. hose box, which is built-in, crosswise, at the front end of the 2½-in. hose box, or body. There are two 1½-in. outlets from the pump to each of the 1½-in. lines in the double hose box, and this provides a constant hookup and gives the crew water immediately at a fire, the supply being taken from the booster tank. This operation of attacking with the booster line, while the hydrant man is making the hookup with the 2½-in. supply line at the hydrant, gives the latter ample time for making the connection.

By having the signal lights atop the cab where the hydrant man can watch them time, voice strain and confusion are saved in transmitting orders from pumper to water supply source.

Thanks, CHIEF ARNOLD A. ZAMPI.

* * *

UNIQUE FIRE HOSE "COUPLING"

Here's a 'gadget' we spotted in *Popular Science* of July, 1948, which may intrigue our readers, as it did us.

According to that excellent journal, the water itself is used to join the lengths of fire hose. The coupling which is unthreaded, is flexible: one end (we take it the male end) is folded as shown and then inserted into the fixed end of the other hose length and the two straps fastened over the pegs of the fixed coupling. The water is turned on and, the higher the pressure, the tighter the joint becomes.

It will be noted there is a ridge on the flexible joint which locks into the groove just inside the mouth of the other connection.

This idea was invented by a Pierre Delcourt of Vertus, France, but we are unable to learn of any country or community making regular use of it..

A Correction

Attention has been called to an error in the last paragraph of the item which appeared in the March, 1953, issue of FIRE ENGINEERING captioned "Seek to Cut $15 Million Cotton Loss."

The text stated that railroad losses from cotton fires originating from bale band friction sparks while in transit resulted in a loss of $170,000 last year. Actually, according to figures compiled by the Association of American Railroads, the losses from cotton fires in transit amounted to $1,248,607 for the year 1952.

The editors are grateful to Secretary W. E. Todd, of the AAR for pointing out this mistake.

More Hose in the Same Truck!

Quaker

FIRE HOSE

It folds flat! It's more compact! It's lighter in weight! It's Quaker Easy-Fold Fire Hose . . . with important *plus* advantages. Easy-Fold is so flexible, so easy to handle, that you can pack 33⅓ more footage in the truck-bed than regular fire hose. Here is that *long, lightweight* hose you need for high, hard-to-reach places...with extra long life, non-acid forming, slow-aging tube and burst-resistant jacket! Insist on Quaker Easy-Fold. Fight fires with full efficiency, top safety and economy.

Write for name of nearest distributor

Water and Chemical Fire Fighting Hose for Every Municipal and Industrial Need

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
PHILADELPHIA 24, PA.

See us at the New England Fire Chiefs Conference Portsmouth, N. H. June 22, 23, 24, 25.

Nursing Homes

(*Continued from page 384*)

the larger, more modern and efficient such sanitariums and homes have standpipes with good hose. Fewer of them are sprinklered, and it is not unusual, where there are sprinklers, to find that their effective operation (due to limited water supplies) would leave inadequate supply at hydrants for fire department use. Operation of either one would tend to rob the other.

Summing up: the limited water supplies for fire control of this type of occupancy places a heavier than usual burden on the fire departments most concerned. Under any conditions, rescue operations where victims are aged, infirm and indigent, are difficult enough, and should not be slowed by failure of water supplies. Where firemen have to make rescues without benefit of adequate water, their task is well nigh insurmountable.

Communications Lacking

Very few nursing homes and sanitariums have any facilities for summoning the fire department except the telephone. In some cases this is on a party line; in others, it is a dial system. Location of telephones in the buildings is generally in an office or cubicle not readily accessible in time of confusion and excitement.

Delayed notification of the fire department is noted in numerous fires in these occupancies. This condition cannot always be blamed on failure of facilities. Frequently, precious time is lost by employees in futile efforts to fight the fire, or in awakening the patients. It appears habitual for attendants in such establishments to underestimate the seriousness of a fire, particularly where there may be little immediate evidence of it. By the time someone thinks to call the fire department, the lines may be dead, or the phones cannot be reached because of smoke or heat.

The vast majority of these homes have no interior fire alarm system for alerting staff and patients. This, coupled with the lack of supervisory staff and watchmen, particularly at night, occasions further delay in arousing occupants of the structures.

Although there are communications systems and services available for installation in these properties which will automatically detect fire, transmit an alarm to fire department, and alert occupants, as well as act to extinguish the blaze, only a very few such occupancies are so protected. Cost is the reason generally given for this omission.

It is also observed that few such risks are tied-in directly with the fire department either through a special circuit or street fire alarm system.

Building Fire Protection

Two other major weaknesses are disclosed in studies of fires in this occupational category. The first is the almost universal lack of available adequate first-aid fire fighting equipment, and the second is the inability to make the best possible use of what facilities are available.

In many areas there are no fire safety measures which make installation of such facilities mandatory. Where there are such regulations, training in their use and application may be purely optional. Investigation has disclosed the wrong kind of extinguishers installed in numerous occupanies; in one home the proprietor boasted of his first-aid equipment. But a check-up showed it to consist solely of old CTC grenade type extinguishers.

Cost of fire protection is given by some proprietors as their excuse for lack of such protection. Lack of knowledge of the facilities best suited for such occupancies too is almost universal. And here the fire service must share some of the blame. In many areas, no serious effort has been made by local fire officers to encourage or insist upon *adequate* first-aid fire protection and, further, only most perfunctory assistance is given the nursing home staff in training them in fire safety, and the proper use of the available fire control facilities.

Observations on Rescue and Fire Control

Weather may be a factor. In one fire, patients were loath to leave a burning home because of the freezing weather outside.

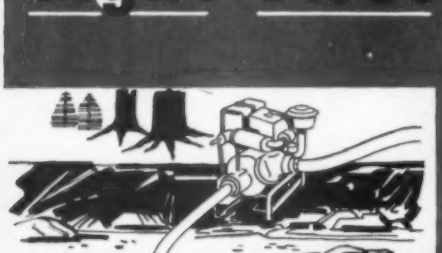
High winds may be encountered. Response of fire forces may be delayed by storms.

Provision should be made for removing ill and infirm evacuees to shelter without delay. Blankets and extra clothing are not always quickly available (patients usually lose all their belongings in serious fires).

Many lives have been lost because occupants insisted on delaying exit to

Fight Fires Faster!

with the DUAL FIRE FIGHTER



DIRECT PUMPING

AS A BOOSTER

Use the Dual Fire Fighter direct when truck pumper is unavailable.

Prevents costly damage to valuable equipment . . . extends your pumper truck range as much as 300 feet . . . reaches otherwise inaccessible water sources.

When fire strikes — prompt, sure action is an urgent necessity, and water is often inaccessible to the truck pumper because of trees, fences or other obstacles.

Two men carry the 162-pound Gorman-Rupp Dual Fire Fighter. Fighting a fire directly, or filling a vital need as a booster pump, the Gorman-Rupp Dual Fire Fighter starts throwing water in less than one minute.

Write for Bulletin No. 9-FD-11

GORMAN & RUPP PUMPS

THE GORMAN-RUPP COMPANY

MANSFIELD, OHIO

dress, or gather up possessions. Others, after being rescued, returned to their quarters for something and were trapped. Supervision over rescued personnel is essential.

Confusion and panic are to be anticipated in these emergencies. Attendants and nurses are usually lacking to direct and control evacuation, institute search for victims and care for the sick and injured. It may be difficult for incoming firemen to secure from employees a clear picture of conditions, of the number and locations of patients who must be removed.

Records of the names and other information about patients and employees are usually poorly kept in such establishments, making check-up of victims and casualties difficult.

Many such occupancies carry no insurance. Others are only partially covered.

Arson should not be ruled out in all fires in these occupancies where the cause remains in doubt and particularly where there may be mental patients and where safety measures are known to be lax.

A factor not usually anticipated is the possibility of simultaneous fires. We have mentioned the loss of two children in a fire which occurred simultaneously with the Haber holocaust in Chicago. When a two-alarm fire struck a boarding house for pensioners in Richmond Hill, N. Y., on Oct. 25, 1949, the first-due companies were all out at a grass fire in Ozone Park. This emphasizes the wisdom of organized mutual aid and centralized fire control in areas where large municipal departments are not available.

In certain health and recreational areas there may be many sanitariums and nursing homes. Any repetition of incidents in a certain area might well be looked into. In Martinsville, Ind., the destruction of the Whiting Sanitarium in 1949, was the fourth such institution visited by fire. In another locality a series of fires in health homes resulted in the introduction of more stringent safety regulations, and their enforcement.

Recommendations—Fire Service

1. Every fire department should know where these sanitariums and homes are to be found in its own territory. It will help also if departments, scheduled to fight such fires in neighboring communities on mutual aid call, are acquainted with the location and the extent of hazards in such occupancies.

2. No such occupancies, private, civic or religious, should be immune to inspection by the fire department having jurisdiction, or to issuance of violations of existing local laws and ordinances. Periodic inspection should be mandatory. Where there is confusion over jurisdiction the state and/or county should act. Regardless of inspections, by health or other agencies, fire department inspections should be maintained.

3. The fire service which must fight these fires, and prevent them if possible, cannot escape its share of responsibility in helping secure adoption of adequate fire safety codes and laws, and in their enforcement. Conversely, the state and/or county owes it to the fire service to enlist and support its endeavors in preventing and minimizing such fires where they occur.

4. All first-due companies at least should be made familiar with not only

(*Continued on page* 421)

THE BOOTS THAT HELP FIGHT FIRES

—and stand up to this tough job *one third longer* than ordinary boots because they're made of an extremely tough rubber compound.

Designed for firemen exclusively with many special features: Thick-cleated, white, wrap-around outsole for maximum foot protection and visibility; built-in maplewood shank for comfort on ladders; stay-open reinforced collar.

CHECK OFF THESE MANY REASONS WHY U. S. FIREFIGHTER BOOTS GIVE YOU UNBEATABLE VALUE AND PROTECTION

- Thick-cleated outsoles for perfect grip.
- Built-in sturdy maplewood shank for ladder climbing.
- High skirt that doubles down but will not drag.
- Reinforced wide leg opening for fast, easy on and off.
- Wool felt lining with air-cushion insole.
- Smooth, snag-resistant 8 oz. duck construction.
- Firmly anchored, large pull-on loops.

U. S. Royal Firefighter Coats

100% waterproof coats take a drenching, yet keep a man dry. Sturdy black rubber with warm, napped maroon-colored linings. Roomy, 2-piece body—raglan shoulders for action; fly-front in instant snap-and-dee fasteners; large patch pockets. All seams are cemented, outside gum-strapped; entire coat is then vulcanized.

US ROYAL TEMPERED RUBBER

UNITED STATES RUBBER COMPANY

ROCKEFELLER CENTER • NEW YORK

PROTECTION
with
Freedom of Movement

A SCIENTIFICALLY BUILT
SAFETY SUIT

New design and construction. NOT an "asbestos suit" but a scientifically compounded garment utilizing the most modern insulators against heat, fibre glass, aluminum foil, vinyl-treated glass cloth *and* asbestos. Tested under actual field conditions in temperatures ranging from 350 deg. F. to 1800 deg. F.—with and without respiratory protective equipment.

Get the I.S.S. Safety Suit that is making good in the fire service: at airports; in industry—wherever personnel must be protected against searing heat. Complete literature is yours for the asking.

Also manufacturers of protective clothing and asbestos blankets 4' x 6', packed in handy permanent carrying cases.

NOTE: The I.S.S. Safety Suit will be demonstrated at the New Haven Fire Department Training Grounds, Saturday, May 23.

INDUSTRIAL SAFETY SPECIALTIES CO.
PERKASIE • PENNSYLVANIA

FIRE OF SUSPICIOUS ORIGIN RAZES PATERSON, N. J. PLANT

Fast Spread, Accompanied by Explosions, Gives Department a Hard Fight

A FAST-SPREADING fire of suspicious origin destroyed the building of the Wire Corporation of America on 21st Avenue, Paterson, N. J., and damaged seven frame structures and a diner, on February 14, last. The blaze was one of the most threatening and spectacular within the memory of many veteran local fire fighters.

Fire Chief G. Hobart Strathearn, who instituted a three-way investigation into the general alarm blaze, said the fire mushroomed through the building faster than any he had seen in his more than 30 years experience with the fire department. That fact, along with a series of six to eight explosions preceding the blaze, and the failure of the sprinkler system to slow up the fire, added to the suspicious circumstances, in the Chief's opinion. Representative of the National Board of Fire Underwriters and the New Jersey Rating Bureau were asked to assist in the investigation into the fire's cause, made difficult by the almost complete destruction of the two-story L-shaped building and contents.

The department received the first alarm at 2:02 P.M. It was sent in by a patrolman who saw flames sweeping across Twenty-first avenue, following a series of explosions which sounded to another witness like artillery fire.

Engines 3, 6, 9 and 13 responded under Battalion Chief Walter Titus, who ordered a second and third alarm as soon as he reached the scene. The other alarms were transmitted at two minute intervals until Chief Strathearn took charge and ordered a general alarm bringing all fire equipment and off-duty fire fighters into action.

The heat of the flames touched off seven other buildings, mostly residences. A large vacant area in the rear of the plant, and an empty triangular park, (shown in the photograph on the cover) helped prevent extension of the fire on those sides.

The radiated heat made it impossible for fire fighters to get close to the blaze in its initial stages, and every effort was centered on preventing ignition of the built-up residential area and to the large industrial plants to leeward of the blazing wire plant.

In these operations two firemen were injured. Fire Captain Herbert Dodds of Engine 13 and Fireman Raymond Alex of Engine 4 were caught in the fall of a telephone pole while operating a hand line nearby.

The heat ignited automobiles and trucks parked in the path of the fire, two vehicles being totally destroyed. Some tenants of nearby houses used their garden hoses to dampen down exposed areas, but it was the firemen dragging their hand lines who finally stemmed the on-sweeping fire.

Actual spread of the flames was checked in about 30 minutes, with every available hose operating to hold the position. About an hour later the men were able to enter some of the burning wooden structures to fight the fire from inside. At about 4:00 P.M. the main fire was confined to the wire building with mopping up operations elsewhere. By 5:00 P.M. the struggle had slackened but it was 2:00 A.M. the following morning before most of the companies had returned to quarters, leaving only watch lines.

To "cover-up" vacated Paterson fire stations, West Paterson sent its Companies 1 and 2. The Little Falls Fire Department was alerted to in turn help cover West Paterson. Volunteer firemen from the surrounding areas offered aid, and some personnel responded, as did civil defense auxiliary firemen.

The wire company manufactured a deodorizer, and deflection yokes for television sets. The latter are insulated coils which control the picture, it is said, and the manufacturing process requires highly volatile enamel and varnish. The building had been inspected regularly by the combustibles bureau and by the State Labor Department to prevent accumulation of dangerous chemical. No one reportedly was in the structure when the initial explosions and fire occurred.

The property damage is estimated at $350,000.

Ohio Fire Brigades to Hold 4th Annual Conference

The Ohio Fire Brigades Association, Inc., will sponsor its Fourth Annual Fire Safety Conference, May 27, 28 and 29, at the Southern Hotel, Columbus, Ohio. The Conference is designed for leaders and members of organized fire brigades and others interested in the formation of such brigades.

The program will include nationally known speakers and lecturers and among the participants will be members of the local Division of Fire, State Fire Marshal Office, Ohio Inspection Bureau, N. F. P. A., and many insurance firms and allied organizations.

Program Chairman is W. F. Bullard of the Columbus Coated Fabrics Corp., Columbus, O. He is assisted by Frank Middaugh, Ohio Inspection Bureau, A. D. Stevenson, Ranco Corporation, and Leslie Hufford of the Armstrong Furnace Company, all of Columbus, O.

The Ohio Fire Brigades Association has served as the pattern for a number of similar organizations. Any interested person may attend the Ohio Conference. Complete information may be obtained by addressing the Association at Box 66, Station A, Columbus 1, Ohio.

"Crusaders Against Fire"

The National Automatic Sprinkler and Fire Control Association has produced a new 16 mm. film entitled "Crusaders Against Fire." Running time is slightly over 12 minutes and the film is both sound and color.

The film is loaned without charge upon application to the Association, 205 East 42nd Street, New York 17, N. Y.

Nursing Homes

(*Continued from page* 419)

the nature and extent of the hazards connected with such occupancies in and adjoining their districts, but they should be informed on the procedures to be followed in coping with emergencies therein. They should be kept posted by their company and fire prevention bureau inspectors on changes, improvements, or the reverse, in fire hazards. Drivers and pump operators, as well as officers, should know all about water supplies, communications, traffic (parking) and related details applying to these occupancies. Officers and crews should not only know the location and layout of buildings but the location of the non-walking infirm and sick in the structures, the details of exits, fire escapes, exposures, etc.

5. Where there are locked gates, or exit doors or windows, keys to them should be carried by first-due units. It is advisable to have all apparatus that may respond also carry a map showing location of hydrants and other water supplies, and floor plans of the buildings, with exits and other escape routes, as well as fire fighting equipment, clearly indicated thereon. Particularly where protection is furnished by volunteers who may have to depend upon mutual aid plants, complete details should be furnished all scheduled departments in the mutual aid set up. Their particular attention should be called to the route they should normally take in responding, the sources of water supply and the position they should take, unless otherwise ordered.

6. There should be periodic fire drills on all such occupancies. Where possible, companies should take position, stretch lines and go through the entire maneuver of rescue and fire suppression operations. Where this is not feasible, units can have a "dry" run and take up their positions. The strategy of rescue and fire fighting can be discussed and reviewed in the field. Blackboard drills can also be held at fire headquarters, using Sanborn maps, where available, and where not, specially prepared diagrams. All actual fires, big or little, in such properties should be reviewed and operations analyzed in the light of what took place, and what should have been done.

7. Taking into consideration all the factors relating to occupancy hazards, most of which have been outlined in this study, fire officers should be able to decide whether or not the forces assigned to the respective property are sufficient to cope with the worst possible situation that might eventuate. Analysis of these factors and response, measured against real and potential risk, has impelled a number of departments to materially increase their initial, or first alarm, assignments.

It is a fact that in some scattered areas the initial response to an alarm night or day, from an institution of some size, has been only a single combination pumper. The excuse was that this was all the small department protecting the area had available for service. That condition is bad enough by day, but it is courting disaster after dark. In other districts, no ladder trucks or rescue units are scheduled for response, even though they are available. It is gratifying to note that some departments, particularly in the volun-

Had we but world enough and time

no one would need monitors but speed in communication is economy and often a life and death matter.

MODEL PR9 FOR 152-174 MC BAND

Chief McMurtry and members of Sheridan, Indiana, Volunteer Fire Department with John Oakley Vice-President of Midwest Fire and Safety Equipment Co. who supervised monitoradio installation.

If you have a police, fire, forestry, pipeline, civil defense, taxi or any other vital 2-way radio system, here is how monitors pay off.

Says Chief McMurtry—of the Sheridan, Indiana, Volunteer Fire Department:

"In the past, the largest obstacles for our Volunteer Fire Department to overcome has been the method of determining the exact location of the fire and beating the traffic there. Speed of course is essential for the efficient operation of any Fire Department. Now, with the Town Police Radio Base Station located in the Department and with the use of 18 PR9 Receivers in the homes of our members we not only learn of the fire before the Town Siren is blown, but we in many cases arrive at the fire before the equipment.... *We do not hesitate to recommend this Receiver to any Department.*"

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MONITORADIO

teer field, are attempting to correct this situation by increasing the "automatic" initial response to such hazardous occupancies. Additional water-carrying apparatus are being dispatched where water supplies are scarce.

8. In some counties having organized mutual aid plans and fire control centers, these occupancies are all cataloged and special response assignments are set up for each. In some areas, what would be a normal second alarm assignment now automatically answers the first alarm, unless otherwise notified. This procedure is simplified materially where responding fire units have two- or three-way radio. Thus responding extra companies can be turned around before they reach the scene of emergency, if they are not needed.

The study also discloses that even in some communities having ambulances and rescue units, none is scheduled to respond to these occupational hazards until, and unless, special called. Many fire officers believe it advisable to include these units on initial response. Others assign them only for night calls.

9. Study of local conditions should indicate whether or not response between sunset and sunrise should be heavier than that during daylight hours. The vast majority of fatal fires have occurred at night. This is the time, especially in the volunteer services, where response is normally at its weakest and slowest, and when fire danger in these establishments is greatest. If past experience is a criterion, it would pay many departments to strengthen their after-dark response.

Note: The National Board of Fire Underwriters and the National Fire Protection Association have published material dealing with fires in places of public assembly, including hospitals, nursing homes and institutions. The Committee on Safety to Life of the NFPA has in preparation the development of an advisory guide to fire safety in this type of occupancy. An interim informative guide was issued by FPA, April 15, 1953, which contains fire safety recommendations on building; removal of patients; control of fire hazards: alarm and extinguishing equipment, and inspection.

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Persons in the News

Broden Chief at Cranston, R. I.

Norman D. Broden, veteran of 25 years on the Cranston, R. I., Fire Department, was elevated from deputy chief to head of department in February, succeeding Chief William W. Young, who died in January. Broden had been serving as Acting Chief since that time.

Clarence Coppoletti was advanced from Captain to Deputy Chief.

The new Chief is widely known and highly regarded throughout the New England fire service.

Firemen Present Car to Chaplain

Father Dollard Morin became Chaplain of the Montreal, Que. Fire Department, August 23, 1950. And it was a post to his liking.

When it became known that he was available to fire fighters at any time, on whatever score, the demands upon his time increased. Until recently, he hurried to pressing tasks by taxi or street car, which consumed still more of his time.

No sooner did realization of his outmoded means of transportation dawn upon the city's firemen than they decided to do something about it. So they started a collection. That was two years ago. By last New Year's day they had raised the requisite amount of money, and as March waned, Father Morin received their gift, a bright red "chiefs car" replete with insignia and flasher-red signal.

White Plains Department Chaplain Made "Deputy Chief"

Rev. Carl W. Strobel, of the White Plains Lutheran Church, who was appointed Chaplain of the White Plains, N. Y., Fire Department 15 years ago, was honored in April by presentation of the helmet and shield of Deputy Chief. Presentation was made by William Quirk, President of White Plains Firemen's Benevolent Association (left), with Fire Chief Edward MacDonald (second from left), and Fireman William MacMahan of the Association participating.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of April, 1953.

Month Ending April 30, 1953

Anniston, Ala.—Bldg. occupied by Hollingsworth Furniture store, King Hardware Co. and Lee's Drug Store destroyed, and Serve-ur-Self Dept. store damaged.
Jasper, Ala.—City auditorium destroyed. Explosion.
Mobile, Ala.—Graybar Electric Co. whse. damaged. Lighting bolt.
Montgomery, Ala.—Whse. at Kilby Prison destroyed.
Texarkana, Ark. — Main bldg. of International Creosoting & Construction Co. destroyed.
Avenal, Cal.—Hoffman Gas Separation Plant damaged.
Burbank, Cal.—Bldg. and lumber yd. of Blanchard Lumber Co. destroyed.
Oakland, Cal.—ABC Glass Co. damaged.
San Diego, Cal.—Arts and Crafts Press, restaurant, cleaning plt. and sewing machine store, damaged.
San Mateo, Cal.—Crystal Springs Country Club destroyed.
Brush, Colo. — Sheet metal workshop bldg. at Farmers Elevator destroyed.
Nucla, Cal.—Nucla Mercantile Bldg. destroyed.
Wilmington, Dela. — Whse. occupied by Wolf Liquor Co. and Sayer Brothers, damaged.
Homestead, Fla.—Packing plt. of Tucci Bros. damaged.
Mandarin, Fla.—Dwelling of L. H. Anderson, destroyed.
Cordele, Ga.—Cordele High School damaged. Short circuit.
Gainesville, Ga.—Butler's Supermarket destroyed.
LaGrange, Ga.—Park Hotel and adj. Tasty Coffee Shop, destroyed.
Macon, Ga. — Dixie Dairies Co. plt. destroyed. Defective wiring.
Pennington, Ga. — Pennington High-Elementary School bldg. destroyed.
Joliet, Ill.—Stateville Prison, damaged.
Joppa, Ill.—Electric Energy Inc., plt. being built to supply power to atomic energy project across Ohio River at Paducah, Ky., damaged. Explosion.
Park Ridge, Ill.—Whse. at Cumberland av. & Western Railway tracks destroyed.
Brookville, Ind.—Volney Felt Co. and a large portion of Truble Asphalt Co. destroyed.
Indianapolis, Ind.—Standard Super Market damaged.
Boda, Ia.—Bldgs. on Edward Krause farm destroyed.
Council Bluffs, Ia.—Bldg. formerly operated as Chez Paree, night club, at Carter Lake, destroyed.
Davenport, Ia.—Hotel Harrison, damaged.
Sioux City, Ia.—Two-thirds of 212-room West Hotel in downtown district, destroyed.
West Des Moines, Ia.—Bldg. housing West Des Moines Express, weekly newspaper, and Colonial Petroleum whse., destroyed. Prowlers.
Wichita, Kans.—Home, greenhouses, barn, garage and quarters occupied by help on Edwin G. Bradley property, destroyed.
Augusta, Me.—Bottle gas plt. of Suburban Utilities Distributors Co. of Maine damaged.
Plymouth, Me.—Plymouth Yarn Co. factory destroyed.
Easton, Md.—Maintenance shop at Elliott Bros. Trucking Co. damaged. Explosion.
Princess Anne, Md.—Tidelands Lumber Co. yd. near U. S. Route 13, damaged.
Salisbury, Md.—Whse. of R. E. Powell Co. dept. store damaged.
Sharptown, Md.—Marvil Packing Co. plt. destroyed. Overheated motor in drying dept.
Nahant, Mass. — Storehouse, former Pavilion Dance Hall, Little Nahant section, destroyed.
Peabody, Mass.—American Polymer Corp. plt., subsidiary of American Resinous Chemicals Corp., destroyed. Explosion.
Revere, Mass.—Wooden channel pier under General Edwards Bridge, Saugus River, damaged.
Wellesley, Mass.—Maugus Club destroyed.
Benton Harbor, Mich.—Bldg. at Ross Field occupied by Aircraft Components Co., damaged. Defective oil heater.
Kalamazoo, Mich.—Bldgs. on Mrs. Maria Riedel's farm, 10 miles northeast, destroyed.
Marquette, Mich.—Nester bldg., containing pharmacy, two clothing stores, several beauty shops and offices, destroyed; adj. supermarket damaged.
Pontiac, Mich.—Pontiac Country Club including golf supplies, destroyed.
Pontotoc, Miss. — Pontotoc Elementary School bldg. destroyed. Defective wiring.
Kansas City, Mo.—Apt. bldg. at 504 West 18th Street, near business section, destroyed.

Every Fire Station Needs a Copy of This New Book—

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BY ROI B. WOOLLEY

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This is without question the most complete, practical and authoritative material ever made available to the fire service on every phase of ladder use, handling and care. It is not only brimful of instructive illustrations but *each operation is fully explained* in easy-to-understand detail. The author, Roi B. Woolley, who is Assistant Editor of FIRE ENGINEERING, a former fire chief and a nationally recognized authority on fire fighting, devoted many months of careful and thorough research in compiling and checking all the data.

Every fire chief, instructor and training school should have this book, and a copy certainly belongs in each fire station.

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City .....

St. Louis, Mo.—Hangar and 20 Govt.-owned trucks at Parks Metropolitan Airport destroyed.
Livingston, Mont.—W. B. Ward home destroyed.
North Platte, Neb.—Service garage operated by York Hinman, destroyed.
Wahoo, Neb.—Two bldgs. on Luther College Campus, destroyed.
Beachwood, N. J.—Ten year-round dwellings destroyed. Forest fires.
Englewood Cliffs, N. J.—Boys dormitory at St. Joseph's School for Boys, atop the Hudson River Palisades, north of George Washington Bridge, destroyed.
Newark, N. J.—Gulf Oil Corp. whse. damaged.
Red Bank, N. J.—Kridel Bldg. housing a vacant store, Cancellation Shoe Shop, J. Kridel's men's shop and Surprise Store damaged. Sparks from welding torch.
Grants, N. M.—Anaconda Copper Co. uranium plt., now under construction, nine miles west, damaged.
Brooklyn, N. Y.—Lot used as an outdoor storage whse. and truck parking place by Sunrise Empty Package Co., Interboro Package Supply Co. and Julie Marinelli Package Supply Co., destroyed.
Camp Drum, N. Y.—Bldg. in Camp Drum Motor Pool, including 11 trucks and several trailers, destroyed.
Clyde, N. Y.—Clyde Milling Corp. damaged.
Floral Park, N. Y.—Whse. owned by New York Distributing Co., filled with paper supplies, destroyed.
New York, N. Y.—Bldg. occupied by Hector's Cafeteria, barber shop, Alpine Drinks, Estelle's Dress Shop, Majestic Ballroom, radio and television school, Arista School for Business and Civil Service, Utility Office Maintenance Co., Valmount Music Studio and Audmel Music Co., and Retail Drug Employes Union Local 1199, damaged.
Syracuse, N. Y.—County Home barn destroyed.
Syracuse, N. Y.—Syracuse Ornamental Co. damaged.
Greenville, N. C.—North Side Lumber Co. planing mill and dry kiln, destroyed.
Morgantown, N. C.—Dwelling of C. D. Hamilton, destroyed. Oil furnace.
North Wilkesboro, N. C.—Mountain View High School, eight miles northeast, destroyed.
Tarboro, N. C.—Waldens Soda Shop, Deluxe Cleaners, destroyed. Miller's Grocery damaged.
Grenora, N. D.—Farmers Union Oil Co. damaged.
Blanchester, Ohio—Two bldgs. destroyed and another damaged. Loss included Brown Publishing Co.
Canton, Ohio—Hursh Manufacturing Co. plt. destroyed. Company manufactures prefabricated houses.
Cleveland, Ohio—Cook Coffee Co. damaged.
Cleveland, Ohio—Bldg. occupied by Cleveland Statuary Mfg. Co., Good Mill stores, Fairfield Parts & Service Co., Harold L. Goff Coal Co. and Cardella Bros. Refrigeration Co., damaged.
Dayton, Ohio—Garwin Furniture Store destroyed. Short circuit in extension cord.
Dayton, Ohio—Tropics Restaurant destroyed.
Findlay, Ohio—Storage bldg. of Cooper Tire & Rubber Co., damaged.
North Columbus, Ohio—State liquor store and chicken carryout store damaged.
Youngstown, Ohio—Steel and scrap whse. of Consolidated Steel Co. damaged.
Waldport, Ore.—Waldport Bay View sawmill destroyed.
Bruin, Pa.—Ultra Pen Refinery, 17 miles northeast of Butler, damaged.
Hogestown, Pa.—Livestock bldg. at Silver Spring Auction, two miles east, destroyed.
Moscow, Pa.—Brookside Lumber Co. destroyed.
Pittsburgh, Pa.—Bldg. housing produce brokers and dealers and apts., damaged.
Reading, Pa.—Kaufman Furniture Co. store damaged.
Silver Lake, Pa.—Vacant ranch house owned by Lloyd E. Sweet, destroyed.
Newport, R. I.—North wing of historic Newport Casino bldg. destroyed.
Providence, R. I.—Elmwood plt. of Taco Heaters, Inc., damaged.
Columbia, S. C.—Carolina Distributing Co., Inc., damaged. Defective wiring.
Columbia, S. C.—Bldg. occupied by Albert J. Asmer's Liquor Store and adj. store of Haverty Furniture Co. damaged. Spark from electric grill.
Holly Hill, S. C.—E. A. Crout's Ford Motor Co. garage destroyed. Drop-cord light used by mechanic exploded and set off flash gasoline fire.
Alcester, S. D.—Grain elevator destroyed.
Badger, S. D.—Farmer Co-operative Elevator destroyed. Spontaneous ignition.
Huron, S. D.—Guy Howard Implement Co. and Ray's Heating Co. destroyed.
Clarksville, Tenn.—Blum's ready-to-wear Shop; Dr. J. H. Ledbetter bldg.; J. C. Cotham Hardware store, First National Bank and Capitol Theatre, damaged.
Dallas, Tex.—The Bagdad, a swanky night club, recently turned into an art center, damaged.
Dallas, Tex.—Unfinished Republic Bank Bldg. damaged.
Fort Worth, Tex.—Fort Worth's swank Colonial Country Club destroyed.
Freeport, Tex.—Dow Chemical Co.'s sub-station damaged.
Houston, Tex.—Bldg. occupied by Rolf Woodcrafters and Star Cooling Towers, cottage of Fleet S. Wood and garage owned by Mrs. Dora Carter, damaged.
Lufkin, Tex.—S. C. Mitchell Motor Co. damaged.
Mt. Pleasant, Tex.—Tank farm installation of American Liberty Refining Co. destroyed. Lightning.
Pettus, Tex.—Donoho Refinery damaged. Lightning struck a tank of crude oil.
Burlington, Vt.—Bldg. housing apts. and grocery store destroyed.
Ajax, Va.—Saddle and Bridle Inn on No. 2 Highway destroyed.
Alexandria, Va.—Temple Foundry destroyed.
Altavista, Va.—Farmer's Furniture Co. destroyed.
Churchland, Va.—Grove Baptist Church in Norfolk County, destroyed.
Pennington Gap, Va.—Pennington Gap School bldg. destroyed. Furnace.
Waynesboro, Va.—McCormick Lumber Co. destroyed.
Pullman, Wash.—Pi Kappa Alpha Fraternity house at Washington State College, destroyed. Faulty fuel bin.
Seattle, Wash.—Port of Seattle Salmon Bay Terminal damaged.
New Era, W. Va.—Gilmore High School destroyed.
Brookfield, Wis.—Club Madrid, night spot just inside Waukesha County line, destroyed. Defective wiring.
Corner Brook, Nfld.—Department store and three apts. above, destroyed.
Brandon, Ont.—Bldg. occupied by Olympia Cafe, a firm of accountants, insurance company, dentist's office and apt. destroyed.
Fort Frances, Ont.—Emperor Hotel across the U. S. Canadian border from International Falls, Minn., destroyed.
Ottawa, Ont.—Upper portion of seven dwellings at 372-380 Gilmour street, destroyed.
Peterborough, Ont.—Modern factory of Lakefield Boats, Ltd., destroyed.
Sault Ste. Marie, Ont.—Lock City Manufacturing Co., lumber products firm, destroyed.
Toronto, Ont.—Thomson Retail Groceries whse. destroyed.
Watford, Ont.—McKinley Transport Whse. destroyed.

For booster and high pressure fog lines

There are four good reasons why the fire fighters specify BAR-WAY couplings. Four reasons why BAR-WAY couplings are growing in favour with firemen, hydraulic engineers and others who insist on the best.

- **SAFETY**—The coupling becomes the *strongest part of the hose line.* Tested to 3000 pounds pressure and 500 pounds pull.
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WEST COAST REPRESENTATIVE } W. D. RIGDON, 383 Brannan Street, San Francisco 7, Calif.

Value of Fire Alarm Systems

By JOHN A. NEALE*

The one feature of municipal fire protection which has probably inspired more misinformation than any other pertains to our treatment of municipal fire alarm systems.

The standards on municipal fire alarm systems have been frequently revised; the last complete revision was in 1949 and amendments have been made in 1951 and 1952.

It is not true that our standards require a telegraph fire alarm type of system made by a particular manufacturer. There are several manufacturers offering this type of system whose product is satisfactory to us.

Also it is not necessary that the system be of the telegraph type. During World War II we worked with Army engineers and developed a telephone system that conforms very substantially with our standards and gives satisfactory service. Currently two large telephone companies are interesting themselves in the field of municipal fire alarm service and we are cooperating with them in their efforts.

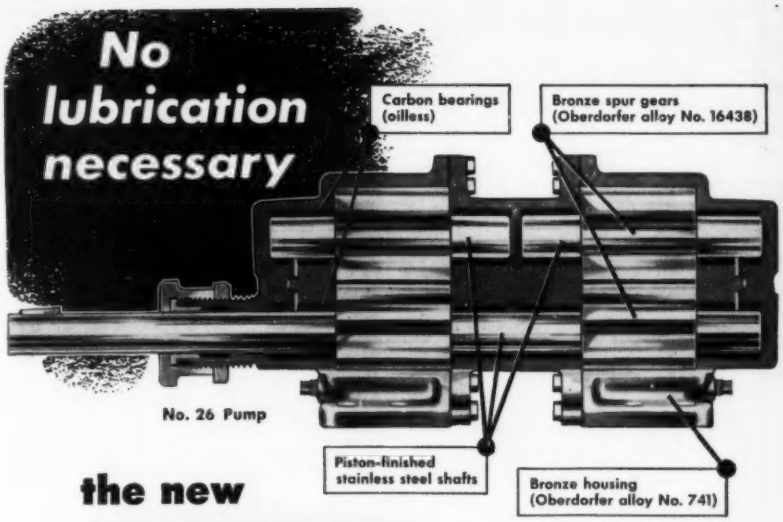
It is true that a considerable proportion of fire alarms are transmitted by telephone and this will probably continue to be the case. Consider, however, manufacturing and industrial areas whose buildings are open and operating only 25% of the time. During the other 75% of the time telephones in these buildings are not accessible to transmit alarms of fire discovered by people in the street. Large-loss fires due in part to lack of alarm facilities are not unusual in these areas. We feel that it is important to have municipal fire alarm boxes accessible to the public in such districts and that the installation of boxes in residential areas is of lesser importance. Consequently the application of the Schedule reflects a relatively small charge for lack of boxes in residential areas.

It is to be expected that cities having poor and inadequate fire alarm systems will have a very small percentage of their alarms transmitted by the fire alarm system. However, there are cities where up to 75% of all alarms are regularly received over the fire alarm telegraph systems, and there are several good reasons why a box alarm is preferable to a telephoned alarm.

The matter of false alarms coming over the fire alarm system has been of concern in some cities. Suitable action through the courts can help this. If the judge will punish the offense with the seriousness it warrants rather than dismissing it as a case of youthful exuberance it will help. Chief Alderson of this city told us at our Committee meeting that Los Angeles has satisfactorily handled its false alarm problems.

I would like to leave this thought with you in connection with fire alarm systems. Those who complain that our Schedule gives too much weight to fire alarm systems are, in the main, from cities which have no system or a poor system. Of the cities which the National Board inspects, 212 have fire alarm systems which grade better than does the city as a whole. Any change in our Schedule decreasing the weight allotted

*Chief Engineer, The National Board of Fire Underwriters. Abstract of address before a meeting of the American Municipal Association, Los Angeles, Dec. 3, 1952.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Carbon bearings (oilless)
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Piston-finished stainless steel shafts
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OBERDORFER BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

LIST PRICES — No. 26 — $200.00 No. 13 — $90.00

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QRS DE LUXE for drapery material, soft finish, dry cleanable, withstands high temperature, Instant penetration. Approved by State of California and City of N. Y.

QRS No. 8—Clear flameproofing for foliage, wood, bamboo, shades, grass rugs, etc.

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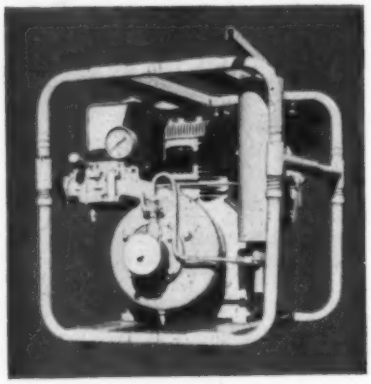
PORTABLE PUMPING UNIT!

Picture below shows fire-fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or for pumping from pond, stream or well direct.

An FZZ will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" hose lines using nozzle tips up to ⅞".

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Unit is also available mounted on two wheels or on rubber-cushioned steel channels.

**Write today for new FZZ Folder.*
Let us know if you want a demonstration.



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MODEL 20 SIRENLITE for Emergency Vehicles

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STERLING SIRENS

- **HANDSOME**
- **RUGGED**
- **RELIABLE**

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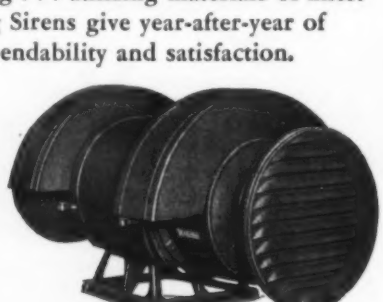
MODEL M GENERAL FIRE ALARM SIREN for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
10 BARTLETT ST., ROCHESTER 8, N. Y.

to this feature would serve to downgrade these 212 cities, which are in the main large cities and up-grade the other 200 odd cities for no other reason than that the latter group lack or have inadequate fire alarm systems.

N.B.F.U. Makes Awards to TV, Radio and Press

The vital role played by the press, radio and television in fire prevention and fire safety activities was accredited in New York April 9, when the National Board of Fire Underwriters announced the names of winners in its 11th annual Gold Medal Awards. The gold medals, or their equivalent of $500 in cash, and a number of honor citations are made to the daily newspaper, the weekly newspaper, the radio station and television station that has rendered outstanding public service in fire prevention and fire safety with the comunity.

The gold medalists are the daily Memphis (Tenn.) Commercial Appeal; the weekly Oxford (Ohio) Press; Radio Station KANS of Wichita, Kans., and Television Station WBZ-TV of Boston.

The Commercial Appeal, a three-time honor award citation winner, was cited for its year-round fire prevention activities, which emphasized the hazards of coal oil use in dwellings and its leadership in clean-up and fix-up campaigns.

The Oxford Press was cited because of its distinguished community leadership, its cooperation with the town's volunteer fire service in furthering fire prevention activities, and its promotion of "inspection day" in the business district which brought about a substantial reduction in the number of fire hazards.

Radio Station KANS was cited for its continuing "red checkmark" campaign for home fire safety, which won for it National Board Gold Medals in 1949 and 1950. Last year, the station extended its program into business and industry, and the staff prepared a series of recorded Christmas fire prevention spot announcements which were widely used.

Television Station WBZ-TV was cited because of its outstanding cartoon spot announcements and its integration of programs on fire prevention into locally originated live shows.

Honor award citations went to seven daily newspapers, seven weekly newspapers, four radio stations and three television stations.

Correction

Gimlet-eyed readers have called our attention to a typographical error in the March, 1953, Round Table in which H. V. Landwehr, Babylon, L. I., is quoted as saying that community's fire department makes a "charge of $15 per $100 assessed valuation for providing fire protection to outside communities." Actually, of course, the charge should read "$.15 (15 cents)." That cost of service to a contract district is certainly nominal. We learn also that in addition to outside "contract calls" response to certain adjacent protected districts is made under a mutual aid agreement.

Another error which has been called to the attention of the editors by a number of our readers was the crediting of the fire shown on the front cover of the April issue to Wilmington, Dela., instead of Wilmington, N. C.

Convention Dates

May 20-22—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, New York City. Secretary, Chief Edward Clark, Box 271, Wayne, Pa.

May 23-24—OHIO REGIONAL FIRE SCHOOL. Regional meeting, Orrville, Ohio. Director, W. T. Banning, State Field Instructor, State Board for Vocational Education, 606 4th Street N. W., New Philadelphia, Ohio.

May 24—NEBRASKA REGIONAL FIRE SCHOOL, Alliance, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

May 27-29—OHIO FIRE BRIGADES ASSOCIATION. Annual Conference and School, Columbus, Ohio. Secretary, W. F. Ballard, c/o Columbus Coated Fabrics Co., Columbus, Ohio.

June 1-5—SOUTH DAKOTA FIRE SCHOOL. Annual meeting, Sioux Falls, S. D. Secretary, Robert W. Hanigan, Box 423, Pierre, S. D.

June 2-4—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Valdosta, Ga. Secretary-Treasurer, Chief G. A. Mitchell, Opelika, Ala.

June 5-7—NORTHERN CALIFORNIA FIRE CHIEFS. Annual meeting, Santa Cruz, Cal. Secretary-Treasurer, Chief Thomas M. Lane, Alameda, Cal.

June 6-7—NORTHEASTERN PENNSYLVANIA VOLUNTEER FIREMEN'S FEDERATION. Annual fire school, Dalton, Pa. For information, contact Dalton Fire Department.

June 6-8—NEW MEXICO STATE FIREMEN'S ASSOCIATION. Annual meeting and fire school, Raton, N. M. Secretary, F. W. Wynn, Hobbs, N. M.

June 7—NEBRASKA REGIONAL FIRE SCHOOL. Ainsworth, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

June 8-10—OREGON FIRE CHIEFS ASSOCIATION. Annual meeting, Eugene, Ore. For information contact the Eugene Fire Department.

June 9-11—KENTUCKY FIRE SCHOOL. University of Kentucky, Lexington, Ky. Chairman, Fire School Committee, John L. Thompson, Kentucky Inspection Bureau, Louisville.

June 11-13—NORTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Lake Placid, N. Y. Secretary, Roy W. Countryman, 20 Haskell Street, Massena, N. Y.

June 11-13—IDAHO FIRE SCHOOL. Annual meeting, Boise, Ida. For information, contact the Boise Fire Department, Steve Taylor, Chief.

June 12-16—FLORIDA STATE FIRE COLLEGE. One of four sessions to be held at Ocala, Fla. Director, J. W. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

June 13—CENTRAL ADIRONDACKS FIREMEN'S ASSOCIATION. Annual meeting, Indian Lake, N. Y. Secretary, Guy Pelon, Indian Lake, N. Y.

June 14—NEBRASKA REGIONAL FIRE SCHOOL. Gothenburg, Neb. Secretary, Russell D. Salak, Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

June 14-17—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. Annual meeting, Watertown, N. Y. Secretary-Treasurer, Chief Henry F. Drake, Clinton Corners, New York.

June 15-18—ILLINOIS FIRE COLLEGE. Annual meeting, Smith Music Hall, University of Illinois, Champaign-Urbana, Ill. Secretary, R. W. Alsip, Box 8, Champaign, Ill.

June 15-26—FIRE HAZARD SHORT COURSE, sponsored by School of Technical Training, to be held at Oklahoma A. & M. College, Stillwater, Okla. For information contact the Division of Engineering & Industrial Extension, Room 109-A, Engineering Building, Oklahoma A. & M. College, Stillwater, Okla.

June 17-20—COLORADO STATE FIREMEN'S ASSOCIATION. Annual meeting, Pueblo, Colo. Secretary, Arthur J. Becker, 4250 Stuart Street, Denver 12, Colo.

June 18-20—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Lake George, N. Y. Secretary, Charles M. Fales, 92 Clove Avenue, Haverstraw, N. Y.

June 18-20—SALT LAKE CITY FIRE DEPARTMENT ANNUAL FIREMEN'S TRAINING SCHOOL. Annual meeting, Roosevelt Junior High School, Salt Lake City, Utah. Sponsored by Salt Lake City Fire Department, Salt Lake City Area Vocational Training School and the Utah Department of Industrial Education. Director, Assistant Chief D. E. White, 144 East First Street, Salt Lake City, Utah.

June 18-20—NEVADA FIREMEN'S ASSOCIATION Annual meeting, Hawthorne, Nev. For information contact the Hawthorne Fire Department.

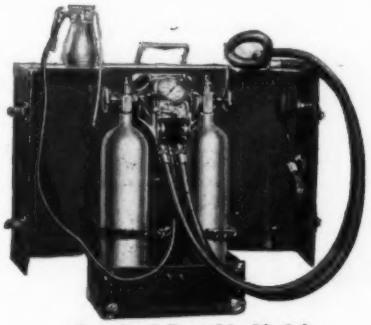
June 22-25—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, Chief John W. O'Hearn, 206 Mt. Auburn Street, Watertown, Mass.

Chief, Give Your Community Every Protection!

Your community looks to you to give it the greatest possible protection. Doing so will increase the good will you now enjoy.

You can be sure that your department will save more lives when you equip it with **Stephenson Resuscitators.**

Hundreds of your fellow Chiefs have learned from experience that Stephenson Resuscitators are the most effective, simplest-to-operate and do most for the patient.



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Other Models to Fill Every Need

Save Lives,
Protect Your Community,
Increase Your Department's Reputation and Prestige,
With the New, Improved

STEPHENSON RESUSCITATOR

Write today for demonstration without obligation or send for booklet F5 which gives complete information.

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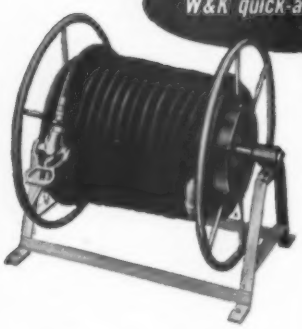
HOWE FIRE APPARATUS CO., 1402 W. 22nd St., Anderson, Indiana

Wirt and Knox Continuous Flow Hose Reels are specifically designed for fire service, are sturdy and durable to provide long life. Complete range of sizes available.

WATER AT THE NOZZLE INSTANTLY!

W&K quick-acting, one man hose reels are always ready!



You can fight fires immediately and keep water damage to a minimum by using Wirt & Knox Continuous Flow Hose Reels.

Here are the advantages these reels provide:

1 **INSTANT ACTION** Water pressure is available at the nozzle even when hose is coiled on the reel. There is no need to run back to turn on valve.

2 **NO WAITING FOR WATER** A full stream of water is maintained when you are unreeling the hose and advance toward the fire. A swivel joint permits uninterrupted flow while reel is revolving.

3 **ELIMINATES KINKS AND TANGLES** You unreel only enough hose to go directly to the fire. No time is lost for straightening out kinks and tangles.

4 **UNIVERSAL MOUNTING** The hose reel with universal mounting stand can be easily installed on walls, columns, ceilings, floors.

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WIRT & KNOX FIRE FIGHTING EQUIPMENT

Expert Testimony!

BOSTON PROTECTIVE DEPARTMENT
Boston, Mass.

Dear Chief:

In reply to your letter regarding the use of the "HALLIGAN TOOL," I wish to state that it is one of the best tools in use to-day for forcible entry to buildings. We have had great success with it and cannot speak too highly of it.

At midnight March 14, 1953, fire 92-100 Chauncy St., fifth floor of a five-story building with various types of occupancy, seven sprinkler heads operated, and with that amount of sprinkler heads operating, a large amount of water would be expected to be found on the various floors. With the "HALLIGAN TOOL" being used to open the many doors that had to be opened, it aided the Patrol greatly as no time was lost in forcing entrance to perform salvage work. With the use of this tool, **MANY OF THE DOORS WERE PUT RIGHT BACK AND LOCKED.**

I again say that every fire department, police department and emergency outfits should carry the "HALLIGAN TOOL" as part of its equipment. You may use my name if you wish.

JOSEPH F. SULLIVAN,
Chief of Department

WHEN YOU CAN— GET TO THEM IN A HURRY • YOU CAN— SAVE TIME, LIFE AND PROPERTY

YOUR GUARANTEE

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1001 USES—DOES EVERYTHING—EVERYWHERE—$36 F.O.B. U.S.A.

THE **HALLIGAN TOOL**

Convention Dates

June 22-25—NEW ENGLAND DIVISION I.A.F.C. Annual Meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary, Chief A. H. Koltonski, Rutland, Vt.

June 22-27—MISSISSIPPI STATE FIRE SCHOOL. Annual meeting, Mississippi State College, State College, Miss. Sponsored by Mississippi State College, State Department for Vocational Education and the Mississippi State Firemen's Association.

June 23-26—MICHIGAN FIRE SCHOOL. Annual meeting. University of Michigan. Ann Arbor, Mich. Director, M. D. Whale, c/o Department of Public Instruction, Office of Vocational Education, P. O. Box 928, Lansing.

June 24—CENTRAL WESTERN FIREMEN'S ASSOCIATION. Annual meeting, Miamisburg, Ohio. Secretary, William H. Schneider, Miamisburg, Ohio.

June 25-27—NORTHERN CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Port Byron, N. Y. Secretary, Samuel J. Pitcher, Box 91, Fairport, N. Y.

June 25-27—SASKATCHEWAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Saskatoon, Sask. Secretary-Treasurer, Chief G. M. Beach, Weyburn, Sask.

June 26-27—NEW JERSEY AND NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Spring Valley, N. Y. Secretary, Charles M. Fales, 92 Clover Avenue, Haverstraw, N. Y.

July 8-9—ONONDAGA COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Baldwinsville, N. Y. Secretary, Howard Harrington, Baldwinsville, N. Y.

July 8-11—WASHINGTON STATE FIRE SCHOOL. Annual meeting, Aberdeen, Wash. Director, Captain R. J. Cook, Assistant State Supervisor of Fireman Training, P. O. Box 250, Olympia, Wash.

July 11-12—JEFFERSON AND WAUKESHA COUNTIES FIREMEN'S ASSOCIATION. Annual tournament, Jefferson, Wis. For information contact Chief John H. Zeh, 1110 Elizabeth Street, Jefferson, Wis.

July 13-15—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual meeting, Omaha, Neb. Secretary-Treasurer, Chief Ray Tiller, 319 East 5th Street, Waterloo, Ia.

July 16—TRI-COUNTY FIREMEN'S ASSOCIATION. Annual meeting, Richmondville, N. Y. Secretary, Carl S. Butler, Box 656, Richmondville, N. Y.

July 16-18—"F" ASSOCIATION FOR FORMER U. S. NAVY, COAST GUARD AND MARINE CORPS FIREFIGHTERS. Annual meeting, Muncie, Ind. Secretary-Treasurer, William J. Mignery, Ontonagon, Mich.

July 16-18—CENTRAL NEW YORK FIREMEN'S ASSOCIATION. Annual meeting, Oswego, N. Y. Secretary, George W. Lang, 10 Ellwood Avenue, Cortland, N. Y.

July 18—SUFFOLK COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual drill, Riverhead, L. I., N. Y. Secretary, Harold Hoek, West Sayville, L. I., N. Y.

July 20-24—FLORIDA STATE FIRE COLLEGE. One of four sessions to be held in Ocala, Fla. Director, J. W. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

July 20-24—WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, West Virginia University, Morgantown, W. Va. Director, R. E. Hanna, Jr., Fire Service Extension Schools, West Virginia University, Morgantown, W. Va.

July 21-24—DELAWARE SHORT COURSE FOR FIREMEN. Annual meeting, Dover, Dela. Director, A. B. Anderson, Assistant State Director for Vocational Education, 511 W. 8th Street, Wilmington, Dela.

July 21-24—MARITIME FIRE CHIEFS AND NEWFOUNDLAND FIRE CHIEFS. Annual meeting, Kentville, Nova Scotia. Chief B. R. Wade, Chairman, Program Committee, P. O. Box 413, Kentville, N. S.

July 24-25—COLUMBIA COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Valatie, N. Y. Secretary, Edward L. Rowe, P. O. Box 118, Mellenville, N. Y.

July 27-30—MISSOURI FIRE SCHOOL. Annual meeting, University of Missouri, Columbia, Mo. For information, contact J. I. Fetters, Administrative Associate, Adult Education and Extension Service for Firemanship Training, University of Missouri, Columbia.

July 28-29—WESTERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Greece, N. Y. Secretary, James H. Surridge, Box 52, Industry, N. Y.

Aug. 1-2—OHIO FIRE SCHOOL. Regional school, North Canton, Ohio. Director, W. T. Banning, State Field Instructor, State Board for Vocational Education, 606 4th Street N. W., New Philadelphia, Ohio.

Convention Dates

Aug. 5-7—SOUTHWESTERN ASSOCIATION OF VOLUNTEER FIREMEN. Annual meeting, Dunkirk, N. Y. Secretary, Sam J. Bechman, Lake View, Erie County, N. Y.

Aug. 10-12—WISCONSIN FIRE SCHOOL. Annual meeting, University of Wisconsin, Madison, Wis. Director, J. J. Lichty, Bureau of Community Development, Madison 6, Wis.

Aug. 18-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. Annual meeting, Binghamton, N. Y. Secretary, Eugene M. Braun, 4025 Main Street, Buffalo 21, N. Y.

Aug. 21-25—FLORIDA STATE FIRE COLLEGE. One of the four sessions to be held in Ocala, Fla. Director, J. W. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Aug. 24-28—TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A. & M. College, College Station, Tex. Director, H. R. Brayton, Fire Service Training, A. & M. College, College Station, Tex.

Aug. 24-28—TENNESSEE STATE FIRE SERVICE SCHOOL. Annual meeting, Middle Tennessee State College, Murfreesboro, Tenn. Director, W. A. Seeley, State Supervisor, Trade & Industrial Training, 202 War Memorial Building, Nashville, Tenn.

Aug. 26-29—MONTANA STATE FIREMEN'S SCHOOL. Annual meeting, Polson, Mont. Director, Clayton Brown, Polson Volunteer Fire Department.

Sept. 3-5—WEST VIRGINIA STATE FIREMEN'S ASSOCIATION. Annual meeting, Charles Town, Jefferson County, W. Va. For information, contact The Independent Fire Company of Charles Town, W. Va.

Sept. 8-10—PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Tacoma, Wash. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Sept. 8-11—OHIO STATE FIRE SCHOOL. Annual meeting, Port Columbus Naval Air Station, Columbus, Ohio. Director, Foss H. Gragg, Deputy State Fire Marshal, 607 Wyandotte Building, Columbus 15, Ohio.

Sept. 8-11—MARYLAND SHORT COURSE FOR FIREMEN. Annual meeting, University of Maryland, College Park, Md. Director, Robert C. Byrus, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 14-18—VIRGINIA STATE FIRE SCHOOL. Annual meeting, Number 9 Fire House, Norfolk, Va. For information, contact Fire Marshal Clay A. Easterly, Director, P. O. Box 1112, Martinsville, Va.

Sept. 14—CANADIAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Allan Clark, Fire Headquarters, Lakefield, Ont.

Sept. 14—GREAT LAKES ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass. General Manager, James E. Jagger, Hotel Martinique, Broadway and 32nd Street, New York 1, N. Y.

Sept. 15-18—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass. General Manager, James E. Jagger, Hotel Martinique, Broadway and 32nd Street, New York 1, N. Y.

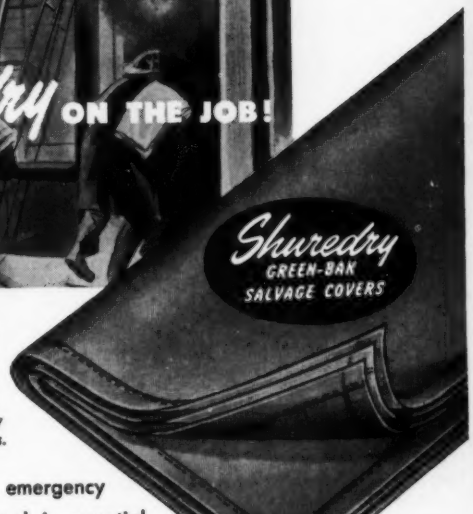
Oct. 5-8—INTERNATIONAL, MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Columbus, Ohio. Secretary, Irvin Shulsinger, International Municipal Signal Association, 130 West 42nd Street, New York 36, N. Y.

Oct. 20-23—KANSAS STATE FIRE SCHOOL. Annual meeting, University of Kansas, Hutchinson, Kans. Director, Gerald Pearson, Director Extension Classes, 111 Fraser Hall, University of Kansas, Lawrence, Kans.

Distaff Duty

Long-suffering cities that claim they haven't sufficient police to handle traffic in their streets (and are casting a speculative eye on firemen to perform that task) might consider what New Orleans is doing.

That city employs 32 part-time policewomen for traffic duty, (according to Public Management, Jan. 1952). During peak traffic hours, they are stationed along the city's downtown business streets to keep motorists from parking in traffic lanes. These policewomen wear uniforms, are under the jurisdiction of the police department, work 15 hours per week, and are paid $60 per month.



Our covers will pass the test specified by the National Board of Fire Underwriters. Shuredry Green-Bak Salvage Covers carry the approved symbol of the Associated Factory Mutual Fire Insurance Companies.

Our representative, G. E. Kohn, will be at the I.A.F.C. Convention in Toronto to supply you with Salvage Cover information.

EXHIBIT BOOTH #60

In every emergency when speed is essential, light, pliable, easy-to-handle SHUREDRY COVERS meet the need of salvage crews. These famous Fulton Covers are made with waterproof seams and are pressure impregnated with the exclusive "Shuredry" treatment. To help cut down fire losses . . . specify FULTON SHUREDRY SALVAGE COVERS.

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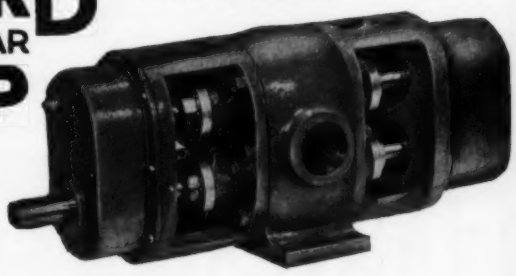
LEONARD ROTARY GEAR PUMP

A NEW AND BETTER FIRE APPARATUS PUMP!



YOUR best buy because of longer service life . . . lowest cost per year. Shafts mounted on Timken Bearings eliminate wear, suction and pressure loss. Delivers 150 GPM at 150 lbs. Designed to take hard fire service. It's "the pump you can't wear out."

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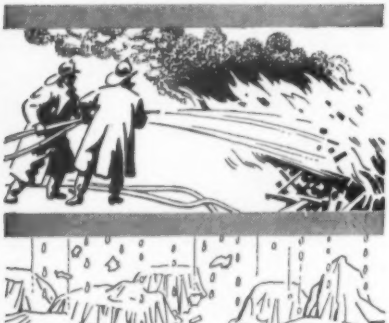
REDUCE FIRE LOSSES WITH LONGER LASTING PROTECTION . . . . . .



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SALVAGE COVERS

- Underwriters Approved.
- More water, rot and fire resistant!
- Won't crack when cold or get stuck when hot!
- Light weight, dark green, closely woven, better quality, extra durable canvas.
- 12′ x 14′, 12′ x 18′, 14′ x 18′.

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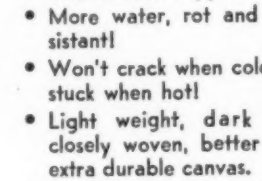

PLATE 653

Accessories easily mounted on truck and easily detached for use. Rigidity assured by three lugs. Lugs machined to pitch assuring against thread damage.

Available in 1½" and 2½" Sizes

ELKHART BRASS MFG. CO., INC.
ELKHART INDIANA

Toronto IAFC-CAFC Conf. Exhibit Space Going Fast!

According to Chief L. C. Canning, Chairman, Exhibit Committee of the International Association of Fire Chiefs, it looks like exhibit space will be at a premium long before the September 15-18 Conference in Toronto.

The following exhibitors have already reserved space in the Royal York Hotel, which also will be the Conference Headquarters:

FIRE ENGINEERING
The American City Magazine
American District Telegraph Company
Hale Fire Pump Company
Mine Safety Appliances Company
American-Marsh Pumps, Inc.
American-Marsh Pumps, Ltd. (Canada)
Notifier Manufacturing Company
Wooster Brass Division (The Fyr-Fyter Company)
Eureka Fire Hose
Akron Brass Manufacturing Company, Inc.
Fabric Fire Hose Company
The Circul-Air Corporation
American-LaFrance-Foamite Corporation
E. & J. Manufacturing Company
Scott Aviation Corporation
Metcalf Brothers & Company
Atlas Safety Equipment Company
McCulloch Motors Corporation
Waterous Company
Oren-Roanoke Corporation
Homelite Corporation
General Electric Company
Federal Enterprises, Inc.
Maxim Motor Company
Motorola, Inc.
Fulton Bag & Cotton Mills
Stephenson Corporation
The Four Wheel Drive Auto Company
The Seagrave Corporation
Elkhart Brass Manufacturing Company
Food Machinery and Chemical Corp. (John Bean Division)
Mars Signal Light Company
Mack Motor Truck Corporation
Safety Supply Company (Canada)
G. E. Hickey & Sons Inc (Canada)
Bickle-Seagrave Company (Canada)

Both the International and the Canadian Association officials are looking forward to the biggest attendance in the history of the two organizations which will hold joint Conferences for the first time in their history.

Anyone interested in exhibit space should write to Chief L. C. Canning, 295 East Second Ave., Midvale, Utah without delay.

Federal Aid in Procurement of Civil Defense Sirens

In response to a request by the editor of FIRE ENGINEERING regarding Federal Aid towards procurement of fire alarm sirens for civil defense, the following communication (Dated April 8, 1953), has been received from Kyle P. Laughlin, Chief, Fire Branch, Public Safety Division, Federal Civil Defense Administration, Washington, D. C.

"Our Warning and Communications Division has informed us that sirens for civil defense may be purchased by municipalities under the Federal-State Matching Program. Such sirens, however, must be installed within a target area or within a community contiguous to a target area provided the probability of bomb damage is as great as the target area itself.

"A community or city which complies with this criteria and desires to purchase warning devices should contact its State Civil Defense Director for details and application forms.

"Approximately $1,720,000 has been earmarked for sirens and other types of warning devices for this fiscal year."

It should be pointed out that the government's fiscal year ends on July 31,

and any of the matching funds earmarked for fire apparatus, equipment, air raid sirens, etc., which have not been allotted by that date will be assigned to other purposes; hence, all requests for financial assistance for purchase of fire and civil protective equipment must be submitted and processed before July 31.

Phone Strike Blamed for $10,000 Dwelling Loss

According to press reports, the home of Mr. and Mrs. William Max, 1096 Broad St., in the High View development of Clifton, N. J., suffered a $10,000 loss April 16th which was blamed largely on the telephone strike (telephone employes had been on strike in that area of New Jersey for some days).

The fire raged through the 7-room bungalow unabated for 20 minutes before the fire department could be notified. The entire structure was gutted and contents and dwelling ruined by the flames.

The fire started in the living room "when the new vacuum cleaner flared just as Mrs. Max was about to begin vacuuming the living room rug." The rug and curtains were ignited; the flames spread to furniture and walls.

Mrs. Max called to her husband, who was working in the rear of the premises, and "then tried to telephone an alarm but was unable to get through." She tried a few more moments without success as the fire spread. She then roused her parents, who occupied the attic of the bungalow, and escorted them to safety.

Mrs. Max ran to a neighbor's home, Mrs. LaMotta, 1082 Broad St., who managed to complete a call to the fire department. Meanwhile a passerby, en route to Newark, saw Mrs. Max run out of the burning home, and drove to Company 6 firehouse on Van Houten Ave. and Broad St. to notify firemen of the blaze. This man arrived at the same time the telephone call was received from Mrs. Max's neighbor.

Companies 6 and 2 responded, with Assistant Fire Chief John Stone in charge, but the fire had had too great a start and the structure was past saving.

The sequel is enlightening: Again quoting the press: "A delegation of residents plan to appear before the city council to ask for installation of fire boxes in the neighborhood."

Thanks, TOM REARDON

Pacific-Coast Inter-Mountain Picks Honolulu for 1954

The Board of Directors of the Pacific Coast, Inter-Mountain Association of Fire Chiefs, which met in Portland, Ore., January 29, decided on Tacoma, Wash. (September 7, 8, 9 and 10) as the location for the 1953 Conference and on Honolulu for 1954. Already 85 members have stated they definitely would go to Honolulu, and 127 more have said there is a possibility of their going.

The Board has completed plans for a large turnout to leave for the IAFC-CFC Conference in Toronto, on Friday, September 11, stopping in Chicago the 14th, then on to Toronto for the 15th-18th.

The Association has set a goal of 2,000 members by the time of the Tacoma meeting.

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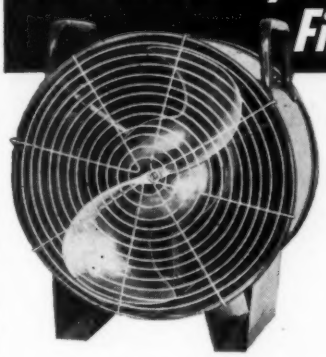

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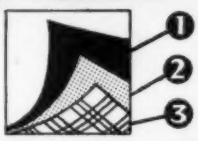

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Questions and Answers

Solving a Complex Layout

To the Editor:

The following is a problem taken from "Fire Service Hydraulics":

"Two engines, each at 280 pounds pressure, are each pumping through two parallel 1,000-ft lines of 2½-inch rubber lined hose; each pair of parallel lines is siamesed into a 500-ft. line of 3-inch hose; the two 500-ft. lines of 3-inch hose are in turn siamesed into a single line of 3½-inch hose 300 ft. in length, and a 1¾-inch nozzle is used. What is the nozzle pressure?"

The answer was given as follows: "First combine each pair of parallel 1,000-ft. lines into a single line of 2½-inch hose; change the 3-inch hose to 2½-inch; then combine the two parallel 2½-inch hose so found into a single line of 2½-inch hose; change the 3½-inch hose to 2½-inch.

"With the engine pressure, 280 pounds, on a single line of 2½-inch hose equipped with a 1¾-inch nozzle, solve for nozzle pressure.

"1,000 ÷ 3.6 = 278 ft. of 2½-inch hose, which is the equivalent of each pair of 1,000-ft. lines of hose fed by either pumper.

"Change each of the two 3-inch lines into a single line of 2½-inch:

"500 ÷ 2.6 = 192 ft. of 2½-inch hose, which is the equivalent of 500 ft. of 3-inch hose.

"Adding the 2½-inch equivalent of the parallel 1,000-ft. lines to the equivalent of the 500 ft. of 3-inch hose we get:

"278 + 192 = 470 ft. of 2½-inch hose.

"In other words, the two parallel 1,000-ft. lines of 2½-inch hose and one 500 ft. of 3-inch hose are equivalent to a single 470-ft. line of 2½-inch hose.

"We thus have two parallel lines of 2½-inch hose of this length, 470 ft., siamesed into a 300-ft. length of 3½-inch hose.

"Next combine the two parallel 470-ft. lines into a single line and change the 300 ft. of 3½-inch hose into 2½-inch hose; then add the lengths of a single line so secured.

"470 ÷ 3.6 = 130.6 ft. of 2½-inch hose.

"300 ÷ 5.8 = 51.7 ft. of 2½-inch hose.

"Then the entire layout is equivalent to a single line of 2½-inch hose 130.6 + 51.7 = 182.3 ft. in length.

"N. P. = E. P. ÷ (1.1 + KL)

"E. P. is 280 pounds.

"K, for 2½-inch hose and 1¾-inch nozzle, is .907

"L = 182.3 ÷ 50 = 3.646

"Then N. P. = 280 ÷ (1.1 + .907 × 3.646)

"= 280 ÷ (1.1 + 3.307)

"= 280 ÷ 4.407

"= 63.5 pounds nozzle pressure."

I have answered this problem by using the formula N. P. = E. P. ÷ (1.1 + KL). I tried answering this problem by first getting the factor for four 2½-inch lines and dividing that into the 1,000-ft. line. Then I took the factor for two 3-inch lines and divided that into the 500 ft. of 3-inch hose. I then took the factor for the 3½-inch line and divided it into the 300 ft. of 3½-inch hose. After adding all the totals to give me a single line of 2½-inch hose, I get a length of 2½-inch hose slightly different from the answer in the problem.

I would appreciate your telling me if I can solve this problem in the manner I did, and if not, can you offer an explanation. L. R.

Answer: Employing your method, the calculations would be as follows:

1,000 ÷ 12.4 = 80.6
500 ÷ 9.35 = 53.5
300 ÷ 5.8 = 51.7
80.6 + 53.5 + 51.7 = 185.8 feet, the length of a single line of 2½-inch hose equivalent from the standpoint of friction loss to the entire layout given in the problem.

In our solution we secured an equivalent length of 182.3 feet. The difference, which amounts to but little over 2 feet, is negligible. It is accounted for by the fact that the factors for changing different layouts to a single line of 2½-inch hose are approximate values, rather than exact values.

To use figures which would make both answers tally would necessitate carrying out the values of the factors several places rather than one or two places as indicated in the solution above.

Your method is just as good as that employed in "Fire Service Hydraulics," and in an examination should receive equal credit.

Engine Pressure Required for Given Layout

To the Editor:

In a recent examination for captain in our city, there was a multiple choice question on hydraulics pertaining to engine pressure on a pumping engine as follows:

What engine pressure is satisfactory to supply the following line: 4 lengths of hose with a 1¼-inch tip and a nozzle pressure of 60 pounds, 110, 120, 130 or 140 pounds? The last was given as the examiner's answer.

I answered the question using the formula E. P. = N. P. × (1.1 + KL). C. D.

Answer: An engine pressure of 123 to 125.5 pounds, depending upon the method by which the figure was se-

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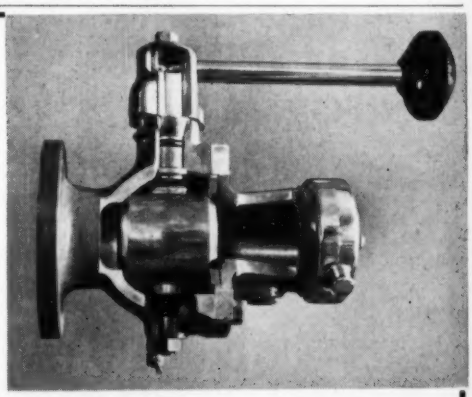

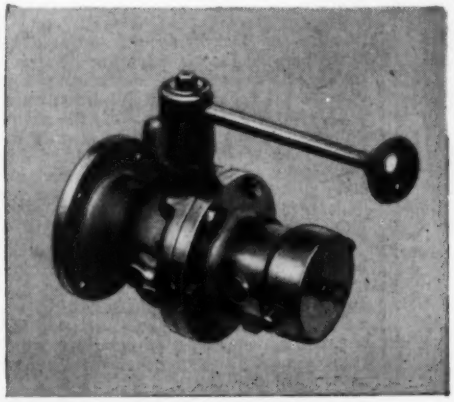

Above—View of BL Valve cut away to show internal construction. Valve is in open position with cap on.

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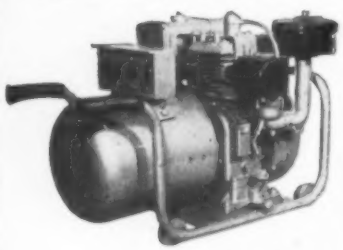

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cured, would be the satisfactory pressure to use in the problem you cite.

Employing the formula for engine pressure, we have:

E. P.=N. P. x (1.1 + KL)

Nozzle Pressure is 60 pounds; K for 2½-inch hose and 1¼-inch nozzle is .248.

L, the number of 50-foot lengths of hose in the line, is 4.

Then E. P.=60 x (1.1 + .248 x 4)
=60 x 2.092
=125.52 pounds.

Checking this figure against the Underwriters' tables for specific layouts, we find that for the same layout, the Underwriters' tables give an engine pressure of 123 pounds.

We understand from your letter that the examiners chose 140 pounds. This latter pressure is more than is required.

Should the problem be solved by the friction loss formula, namely:

F. L. per 100 ft. of 2½-inch hose= $2Q^2 + Q$ we get an engine pressure of 118 pounds.

However, this latter formula gives only approximate results, and does not approach the engine pressure formula in accuracy.

"Loaded Stream" Extinguisher

To the Editor:

In a recent promotional examination we were asked to explain a loaded stream extinguisher. I said that it was any extinguisher containing its own expulsion charge. The examiner's answer was that these extinguishers are also known as the alkaline metal salts type; the solution used being of a special nature and a trade secret. This solution is discharged by pressure exerted following the rupture of a cartridge of inert gas such as carbon dioxide, or by chemical reaction. What is your definition of a loaded stream extinguisher?

Answer: Loaded stream extinguishers are those wherein the extinguishing solution is charged with chemicals. The method of expelling the solution is immaterial.

In the "Fire Chief's Handbook" the following description is given of the Karbaloy extinguisher, which is a loaded stream type:

"Karbaloy Extinguisher: Employs a mixture of potassium salts as a fire extinguishing agent. The extinguisher bears the trade name "Instant" and is non-freeze. Originally the extinguisher was operated by gas pressure generated by reaction between chloro-sulphonic acid and Karbaloy, but by substituting a CO_2 cartridge for the acid, the manufacturers found they could not only improve the operating pressure at low temperatures but make a cleaner and safer job to handle. As a result the new "Instant" extinguisher is fitted with a CO_2 cartridge.

"No gases are liberated by the Karbaloy, but vaporized by heat it has quite a remarkable effect on wood fires and will also extinguish small oil and volatile liquid fires. The Karbaloy also has a decided fireproofing effect which retards rekindling of other than inflammable liquid fires.

"Extinguishers of the type wherein the extinguishing solution is charged

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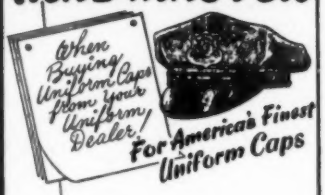

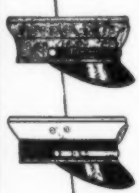

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with chemicals, commonly fall under the classification of 'loaded stream' extinguishers."

Friction Loss in Fog Lines

To the Editor:

I would like to get some information of figuring friction loss for fog nozzle on 1½-inch lines where the volume of water is known. We have been using the formula for small lines, namely, $40 \times (2Q^2 + 1/6\ Q) \times C$.

G. F.

Answer: The formula which you use for determining the friction loss in 1½-inch hose is the one which you should use.

It gives fairly satisfactory results for the flows commonly encountered in 1½-inch hose.

In case you have not a table of friction losses for various flows in 1½-inch hose, we are giving below these figures. which we believe may be of use to you in checking calculations.

Flow in GPM	F. L. 100' 1½-in. R. L. Hose
10	0.5
15	1.0
20	1.7
25	2.6
30	3.6
35	4.8
40	6.1
45	7.6
50	9.3
55	11.0
60	13.0
65	15.0
70	17.0
75	19.5
80	22.0
85	24.5
90	27.0
95	30.0
100	33.0

When Stream Strikes a Wall

To the Editor:

A man is standing on a ladder approximately three feet in front of a window playing a 2½-inch hose, equipped with a 1-inch tip, at a nozzle pressure of 35 pounds. If while directing stream into open window, he accidentally hit the wall, would enough back pressure be created to throw the ladder back?

Also, would there by any back pressure if he played a 2½-inch hose with a 1-inch tip and 35 pounds nozzle pressure against a wall ten feet away?

J. W. M.

Answer: If men standing on a ladder approximately three feet in front of a window should suddenly hit the wall with a stream from a 1-inch tip at 35 pounds nozzle pressure, the reaction from the nozzle would not be increased whatsoever. The only way you can increase the reaction on a nozzle from a fire stream is by bringing the nozzle so close to the wall that the flow of water from the nozzle is restricted.

As long as the nozzle is held sufficiently far from the wall to permit the stream to leave the nozzle in a normal condition, there will be no increase in back pressure.

Men holding a nozzle that is suddenly brought near a barrier might imagine that the reaction increased, due to the fact that they receive the splash from the stream. However, such is not the case.

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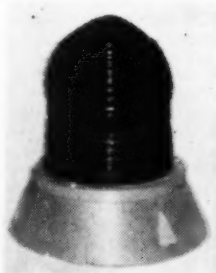

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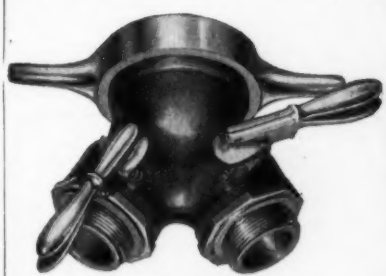

Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

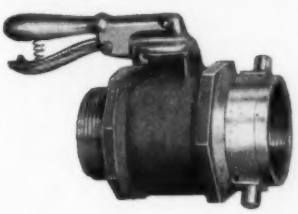

Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

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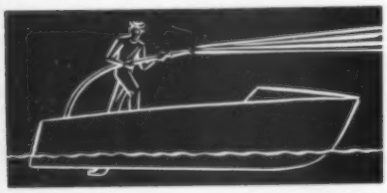

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Arson Investigation

(*Continued from page 387*)

seldom leave town. However in some cases a suspect may leave the city as soon as he knows that he is under suspicion. Moreover, important witnesses may be prevailed upon to make themselves unavailable to the Fire Department's investigation.

Where suspects or witnesses are missing, they must be located. To do this, the investigation must compile all the known facts pertaining to the missing persons. This would include a complete description with full names, any aliases, ages, the dates of birth, heights, color of his eyes, hair, complexion, etc.

Find if the man owned an automobile, its make and license number; any scars or physical defects, peculiarities in his general appearance, his manners, style of dressing, his clothes size where possible. If the person has ever been arrested or has been in military service, his finger prints will be on file. Check with his dentist as to his dental chart, bridges or any other work that may have been done on his teeth. Most important of all is to obtain a photograph of the missing person when it is available.

The next step is to develop his family history, his last known address and any previous addresses, whether he is married, the place of marriage and, if divorced, the record of same. In many of these cases the divorced wife of suspect can give the investigator a good deal of information as to where he may be located. Where there are any children, the names, addresses and ages of all the children will be of help. Also obtain the names and addresses of known relatives and friends. Check his education and the schools he attended, his membership in any school societies, fraternities and club.

It is extremely important to check with his employer, the places and types of work he has done, the names, addresses of various employers and supervisors, and his reasons for leaving. This will give the investigator a lead on what type of employment he may seek. Get his social security number and card, and check with various employment agencies. This may be helpful where he seeks work in other cities. Where the person has been in military service, obtain the dates of service, the organization and branch, his rank at the time of discharge and the type of discharge. Determine if there are any disabilities or pension. Find out the city where he entered service, and where he was discharged, and whether he is liable to require medical attention or hospital service. Try to find out if the man had any hobbies or strange habits, whether he belonged to any unions, service clubs or societies. Check on the location of any property he may have owned, stocks, or real estate. Check with various life insurance companies with which he may have carried policies where the premiums were paid, and if there has been a change in address where insurance bills are being sent, or another office where such payments are being received. In this connection, check with the Post Office Inspector to find if there has been any change in address registered. It also may be well to send a telegram to relatives or friends at his last known address and check to see where such telegrams may have been forwarded. Check with newspapers,

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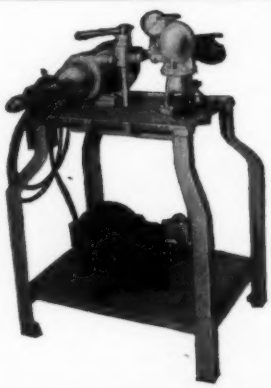

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magazines and other periodicals to which he may have subscribed for any change in address. Place a person to person long distance telephone call to his last known address; this sometimes brings results as the new telephone number or address may be furnished. Where the entire family has moved, check with the utility companies to see if the customer has ordered any transfer of service or has written from an out of town address for a deposit.

Investigations will differ in attempting to locate suspects and missing witnesses. However, it is well at the start of any investigation, where a photograph of the missing person is available, to check with airlines, bus lines and railway terminals showing the picture to the ticket agent and see if he may remember selling such a person a ticket and if so, his destination.

It is well to interview all neighbors and friends. They may have knowledge of the missing person's whereabouts. Where such a person was in business, check with all firms with which he did business. They may be able to furnish important information as to where he may be found. If the person happened to be under the care of a doctor and was using medicine, pharmaceutical agencies often use special registered numbers in the manufacture and distribution of their products. These may be checked to see if such medicine is being purchased in another location in the city or in another town close by. Where the missing person is a member of any church, check the registered lists of the various churches in the city. He may have joined a new church or congregation.

After having compiled all the known facts about the missing person, the investigator will then have to use his own tact and techniques in apprehending them. There is so much to this particular side of investigation work that it would be impossible to cover all the details.

Acetylene Fires

(*Continued from page 392*)

4:31 a.m.—Los Angeles County Fire Department transmitted a Second Alarm after Engine 31's radio report. Sent: Engines 1, 2, 3, 22, 27; Truck 27; Rescue 3; Chief Sherrill and Assistant Chief Duncan.

5:30 a.m.—Westlake dispatched Utility Wagon 3.

Los Angeles Fire Department moveups: Engine 6-70; 24-2; 10-4; 30-25 and 14-30; Truck 24-2.

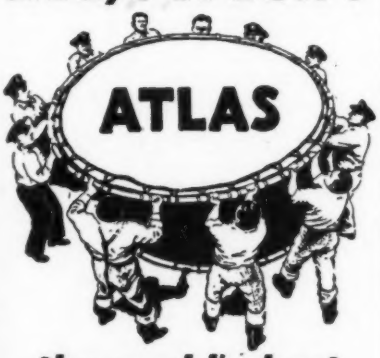
Los Angeles County Fire Department moveups: Engines 4-3; 40-22; 15-40; 25-27; 98-25. (Last County apparatus returned to quarters at 6:23 a.m.)

Fire Waste Contest Winners

Winners of the 1952 Inter-Chamber National Fire Waste Contest were announced in April by the National Fire Waste Council. Winner of the Grand Award was Stevens Point, Wis. Awards in the six population classes went to Cincinnati, Ohio (Class I), Memphis, Tenn. (Class II) Providence, R. I. (Class III) Racine, Wis. (Class IV) Billings, Mont. (Class V) and Valley City, N. D. (Class VI).

Honor award certificates went to ten cities in each of six population classifications.

always SPECIFY



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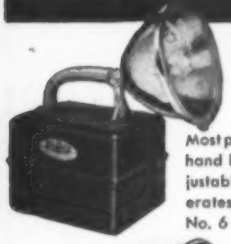

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Atlantic City Fire

(*Continued from page* 439)

Directly across the Boardwalk from one side of the Strand is the old Steeplechase Pier Building. The Pier was never wholly rebuilt after the fire of several years ago. However, sparks from the burning hotel ignited the Pier structure and a boat on the Pier. The latter was unceremoniously dumped over the side to the sands, and the burning embers on the Pier building put out by Pier guards and firemen.

Fire Chief Zenus Mathis said the blaze was the worst since he became head of the department last December. He and his men were congratulated for holding the fire to the center area of the building. In this they were aided by firewalls and doors.

The fire is reported to have started in unoccupied Room 470 in the southwest corner of the building shortly before noon. It raged out of control for more than two nours. At 2:15 P.M., Chief Mathis reported the blaze was confined, but it continued to burn fiercely for several more hours. It was discovered by Mr. Scull, manager of the building, who notified the telephone operator to phone the alarm. This she did, and responding firemen quickly sounded a second alarm. When Chief Mathis arrived he ordered a general alarm sounded, bringing all available apparatus to the scene. The flames spread rapidly through the seven-story rear and, fanned by high winds, soon reached the Pennsylvania side. The fire spread via the elevator shaft to the lobby and lower floors, enveloping most of the rear of the building.

Firemen ordered the stores in the Riddle Block, adjoining on the Boardwalk, evacuated. They drove apparatus onto the Boardwalk and attacked the blaze from both Pennsylvania and Mansion avenues, using the city's high pressure as well as the low pressure systems. Nearly 100 hose lines in all were in operation during the fire, most of the attack, of necessity being directed, from the outside.

Fire companies from Pleasantville and other offshore Jersey communities answered the call as part of the mutual aid plan in effect in the area. Some units were located in empty Atlantic City Fire Stations, others reported to the fire. Extra police were called to control the crowds of curious who swarmed to the scene attracted by the column of smoke and movement of apparatus. The property loss was estimated at $650,000.

March Fire Losses

Estimated fire losses in the United States during March are the highest on record, amounting to $83,471,000, it was reported by the National Board of Fire Underwriters.

According to Lewis A. Vincent, NBFU's general manager, this $83,471,000 loss represents an increase of 15.5 per cent over losses of $72,254,000 reported for March, 1952, and an increase of 14.8 per cent over losses of $72,706,000 for February (1953).

Losses for the first three months of 1953 now total $232,836,000, an increase of 7.6 per cent over the first three months of 1952, when they amounted to $216,334,000.

These estimated insured losses include an allowance for uninsured and unreported losses.

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MAY, 1953

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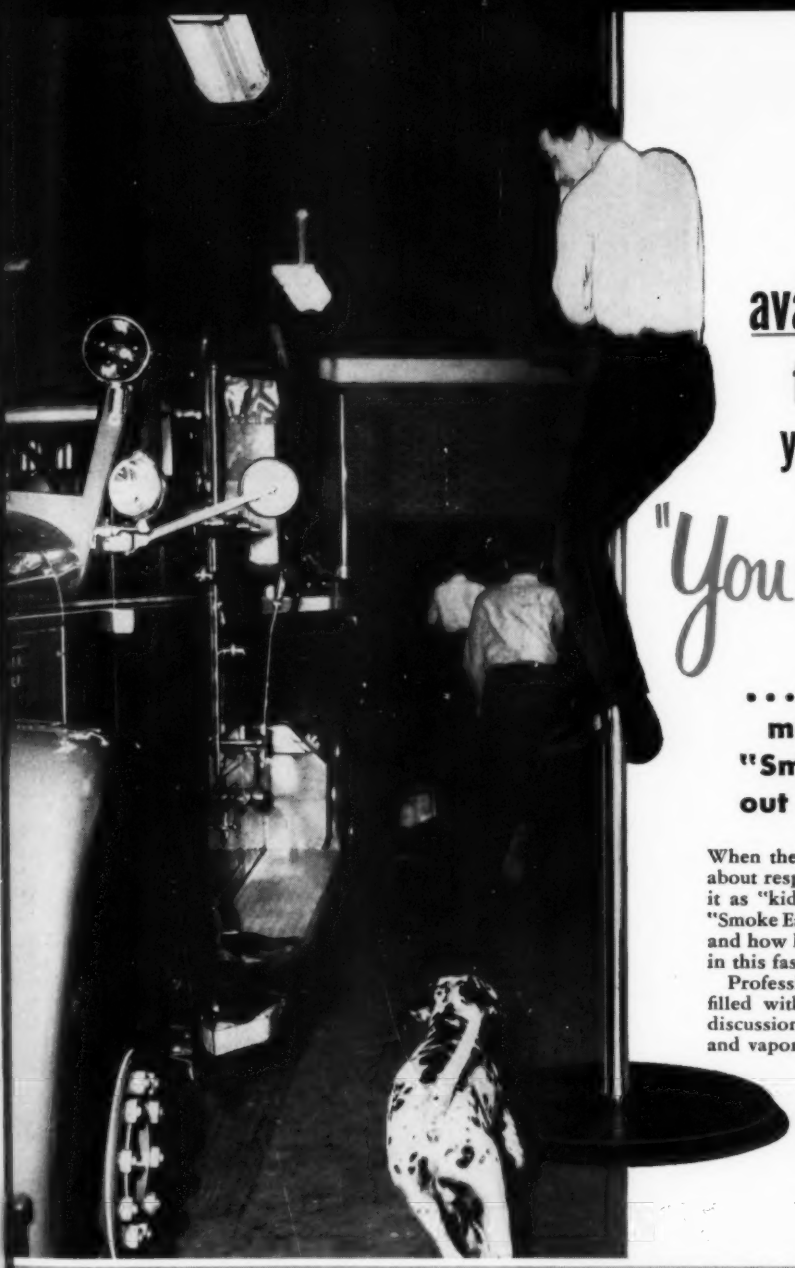

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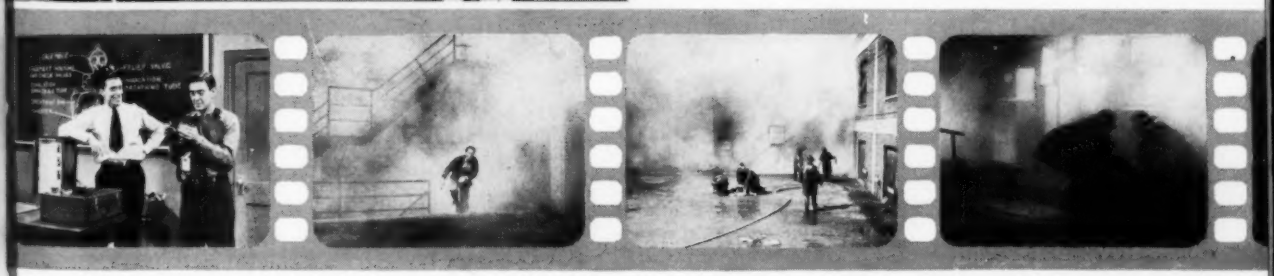

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